



SLSGB

Coasteering Safety and Rescue

Name:

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GENERAL

Foreword

Welcome to the first edition of the Surf Lifesaving Great Britain Coasteering Safety and Rescue (CSR) manual. This manual represents the culmination of significant research and input from Coasteering and Lifesaving experts from around the UK. This manual is the key text for the purpose of Coasteering Safety and Rescue.

Coasteering is a challenging and demanding activity, Guides need to be equipped with the highest level of safety and rescue techniques available. This publication has been developed to offer Guides and individuals operating in a Coasteering environment the essential information and techniques to operate safely in a demanding and sometimes hazardous environment.

Tom Gwilliam

Surf Life Saving Great Britain

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Editorial group

Andrew Byatt

Tom Gwilliam

Llyr Faragher

Dr Paddy Morgan

Technical group

Freddie Cunningham

Llyr Faragher

David Green

Tom Gwilliam

Dave Harris

Dr Paddy Morgan

Oliver Myles

Dan Price-Davies

Alex Sergison

Andy Spink

External organisations and personnel

Bond Helicopters Ltd

Bude Surf Lifesaving Club

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Integer Training Ltd

Ingrid Kendall, Design & Artwork

National Coasteering Charter

Seaford Lifeguards

SLSGB Beach Lifeguard Manual

Technical Group

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The SLSGB CSR Programme

The SLSGB CSR Manual

Surf Life Saving GB (SLSGB) wishes to thank all those that have contributed to this manual; the staff and volunteers from SLSGB who have worked on getting this manual produced and the Coasteering fraternity for their support with this new manual.

The SLSGB CSR Manual has a limited first aid section included. Further more detailed information is to be found in the SLSGB First Aid Manual.

Surf Life Saving GB's Life Saving Qualifications are recognised nationally and internationally, and are a qualification of preference for many employers and organisations.

The CSR Programme

The SLSGB CSR Qualification is for those people who are working as Coasteering Guides. It has been designed to give the underpinning knowledge and relevant techniques to allow guides to formulate their own Emergency Action Plans within their own specific environment.

SLSGB offer a wide range of Life Saving qualifications and awards that can be found in our Qualifications and Awards Guide. It is recommended that candidates should work through the qualifications scheme to gain further knowledge and experience to compliment their CSR award such as the SLSGB First Responder or Beach Lifeguard qualifications.

Every effort has been made to ensure that the qualification and award scheme recognises appropriate prior learning from all other SLSGB qualifications and awards, and that common modules are available and transferable between awards.

The CSR qualification

The SLSGB CSR qualification is an assessment of:

- fitness
- practical safety skills and knowledge
- rescue techniques
- basic Life Support

It is a requirement that Guides receive additional training specific to the guiding of people and clients within the Coasteering environment prior to undertaking this course or undertake this as part of a Guide qualification.

Aims and Outcomes

This manual is aimed at the Guide and activity provider and can therefore be used as a general centre training and reference manual.

The sole aim of the SLSGB CSR course is to establish a level of competence in safety and rescue techniques for existing Coasteering Guides

Length of course

The full CSR course is designed to be run over a minimum of 16 guided learning hours.

Costs of qualifying

Surf Life Saving Great Britain requires all CSR candidates to attend a course, run by an approved trainer, which has been registered in advance with SLSGB. **This registration will result in manuals being issued for all candidates.**

Payment for the qualification must be made in accordance with the current Qualifications and Awards Guide.

The registration, certification and manual fees are all listed in the current SLSGB Qualifications and Awards Guide.

In addition to the charges levied by SLSGB, the course organiser may levy a charge to cover the cost of the course and the assessment. SLSGB does not recommend or govern fees set by training providers for the delivery of its qualifications and awards.

In some cases, SLSGB or one of its regional bodies may levy a charge for assessment. SLSGB recognises the need for this and issues guidelines on the amount and the procedure for charging for assessments.

Evidence of Competence

To be successful in the SLSGB CSR assessment, the candidate will need to satisfy the following criteria:

Pre requisite

- Be a minimum of 16 years of age on the date of assessment.
- Knowledge and experience of leading groups in a Coasteer environment.
- The Coasteering Safety and Rescue Award (CSR) is only open to candidates who hold a valid and recognised First Aid Certificate. At the start of the CSR course all candidates will be required to provide a copy of an in date certificate and demonstrate Cardio Pulmonary Resuscitation (CPR) to the standards set out by the Resuscitation Council (UK). Candidates who do not demonstrate competence will not be permitted to continue the course and will not be entitled to a repayment of the course registration fee.
- Be able to confidently swim 400 metres in open water.
- Be medically and physically fit.

Assessment

- Complete the syllabus for assessment.

The assessment may be completed in sections providing that all sections are completed within 3 calendar months.

Syllabus

The syllabus for the CSR Qualification, and all other SLSGB Qualifications and awards, can be found in the current SLSGB Qualifications and Awards Guide.

Validity/proficiency

The SLSGB CSR qualification is valid for 24 months. After which the holder may undertake a proficiency test before their qualification expires to further qualify them for another 12 months. Alternatively the holder may undertake a full re-assessment to further qualify them for another 24 months.

Surf Life Saving Great Britain

Surf Life Saving Great Britain (SLSGB) was formed in 1955; its motto is 'Vigilance and Service'. It is a charitable Company which is established to save lives on Britain's coastlines by:

The provision of support and maintenance for a network of Lifesaving clubs

The promotion and improvement of national and international standards, qualifications and training in water safety, Lifesaving, Coaching, Resuscitation and First Aid

The promotion and organisation of beach, water sports and Lifesaving activities for recreation and enjoyment that encourage fitness, team work, responsibility and excellence

SLSGB is a founder member of International Life Saving Federation (ILS) whose members throughout the world teach lifesaving to the same high standards. SLSGB is, in the main, a club-based organisation with upward of 80 clubs affiliated and over 5,000 members at the time of publication. The clubs are geographically grouped into regions for administrative purposes. The regions have a key historical significance within SLSGB and form a vital link in its structure. Clubs outside of these regions are supported directly from SLSGB Head Office. 'The Lifesaving, Sport and Development interests of SLSGB are catered for by National Commissions and each has a Chair.

Surf Life Saving Great Britain has earned the enviable reputation for professionalism and teaching excellence of the awards and services they provide. SLSGB is determined to maintain these quality standards to provide sound foundations for the future success of SLSGB and continued security for its members and employees. SLSGB is committed to developing the organisation to become the nationally recognised governing body for beach lifeguard training and surf life saving sport.

Code of Conduct

Safety

The paramount consideration of the trainer/assessor is, at all times, the safety of the candidate. In particular, the trainer/assessor must ensure that there is:

- Adequate safety cover at all times.
- Adequate equipment available in case of an emergency.
- Adequate supervision.
- A correct ratio of trainers/assessors to candidates.
- For the purpose of training/assessment, suitable conditions.
- Safe and suitable Personal Protective Equipment (PPE) is worn at all times.

Please refer to 'SLSGB National Safety Guide for Training and Coaching' for further information.

Safeguarding

SLSGB will suspend any member against whom a serious complaint is made pending investigation. A member found guilty will be excluded from membership of SLSGB. Members of SLSGB should be aware of the possibility of unfounded accusations being made against them; they should follow the guidelines. Members of SLSGB should be fully aware of the procedures to adopt should they suspect, or are informed, that there may be an incident within their area of control or influence.

General

Members of SLSGB should:

- Respect the rights, dignity and worth of every person and treat everyone accordingly during training sessions.
- Abide by the SLSGB Equal Opportunities Policy.
- Place the wellbeing and safety of the candidates within the class above the development of class performance. They should follow all guidelines laid down by the governing bodies, leisure centres, local authorities or such other bodies who control pool and beach usage, and must hold the appropriate insurance cover.
- Develop an appropriate working relationship with their candidates, based on mutual trust and respect. Trainers must not exert undue influence to obtain personal benefit or reward.
- Encourage and guide their candidates throughout each lesson.
- Hold a recognised SLSGB instructing qualification if they teach lifesaving.
- Ensure that the activities they direct are appropriate for the age, maturity, experience and ability of the candidate.
- At the outset, clarify with candidates (and where appropriate with their guardians) exactly what format the lessons will take and what is expected of the candidate.
- At the outset, clarify with candidates (and where appropriate with their guardians) what, if any, medical condition the candidate suffers from that could impinge upon their activities during the course or prove a risk to other candidates whilst maintaining confidentiality of the condition in question.
- Cooperate fully with others involved in the lessons (for example, land management, other trainers) in the best interests of the candidate.
- Display the highest standards of behaviour and appearance when instructing.

CSR training

Knowledge and skills required depend on the circumstances of the particular environment, notably the:

- 'Normal' prevailing sea conditions (such as heavy surf/ calm water).
- 'Normal' tidal, drift and current conditions.
- 'Normal' level of technical knowledge and skill for the Coaster.
- 'Normal' level of technical knowledge and skill for the equipment used/provided.

All Guides need a thorough knowledge of the organisations normal operating and emergency action procedures and potential risk factors. All Guides need skills to:

1. Work effectively as a member of a guide or rescue team.
2. Observe the environment and effect a prompt rescue. This requires an ability to use any emergency equipment provided for this purpose, enter the water safely, swim, recover and land a swimmer in difficulty.
3. Perform resuscitation by CPR. If any resuscitation equipment is provided, the Guide should have the additional skills needed for its use.
4. Perform emergency first aid.
5. Use any other equipment normally provided by the operator.

The Legislative Background

Both common law and statute law cover the operators' responsibilities and both require consideration. There is currently no single legislative directive that governs how a beach, foreshore or coastline should be managed or operated. The legislative world is both complex and ever changing and the following regulations are thought to be relevant to safety and rescue.

Health and Safety at Work Act 1974

Employers have a general duty to ensure, so far as is reasonably practicable, the health and safety at work of their employees. This duty includes, in particular, the provision of safe plant and equipment, safe systems of work, a safe work place and the information, instruction, training and supervision needed to ensure safety.

Employers also have a general duty to ensure, so far as is reasonably practicable, the health and safety of persons other than employees who may be affected by the way in which the undertaking is conducted.

Meaning of 'reasonably practicable'

The qualification 'so far as is reasonably practicable' means that the addition to safety that any particular measure will produce needs to be balanced against its cost. Where the difficulty and cost are high and a careful assessment of the risk shows it not to be significant, it may not be necessary to take action. In some cases however, there will be things that must be done at all costs. No allowance is made for the profitability of the undertaking.

Occupiers Liability Act 1984

This Act imposes upon the occupier of premises a duty of care to any visitor using the premises for the purposes for which he is permitted or invited. The term "premises" can be interpreted to mean beach or foreshore. The operator or land owner of a coastline will not automatically be exposed to liability unless they place an amenity such steps or car parks. However, a land owner deriving income from the provision of services for visitors may well incur liability unless reasonable precautions are taken.

Management of Health and Safety at Work Regulations 2006

These regulations require employers to:

- Perform a risk assessment and make arrangements to reduce those risks.

- Establish procedures to deal with serious or imminent danger.
- Provide training and installation on possible hazards including equipment.
- Provide information on occupational qualifications and skills.
- Review the risk assessment if circumstances change.

Public Health Act 1936 & 1961 Civic Government (Scotland) Act 1967

These acts allow local authorities the power to regulate water users.

Section 231 of the Public Health Act 1936 states:

'A local authority may make byelaws with respect to public bathing and by such byelaws:

- Regulate the areas in which, and the hours during which, public bathing shall be permitted.
- Regulate, so far as decency requires, the costumes to be worn by bathers.
- Require persons providing accommodation for bathing to provide and maintain lifesaving appliances or other means of protecting bathers from danger.
- Regulate, for preventing danger to bathers, the navigation of vessels used for pleasure purposes within any area allotted for public bathing during the hours allotted for bathing.'

Section 234 of the Civic Government (Scotland) Act 1967 states:

'A local authority may provide lifesaving appliances at such places, whether the place is used for bathing or not, as they think fit.'

Section 76 of the Public Health Act 1961 states:

- 'For the prevention of danger, obstruction or annoyance to persons bathing in the sea or using the seashore, a local authority may make byelaws:
 - Regulating the speed of pleasure boats.
 - Regulating the use of pleasure boats so as to prevent their navigation in a dangerous manner or without due care and attention or without reasonable consideration for other persons.
- Any byelaw may apply ... within a distance seaward of 1,000m from low water mark of ordinary spring tides.
- The Secretary of State shall be the confirming authority.'

Control of Substances Hazardous to Health (COSHH) 2002

Although an operator would not have to provide a COSHH report for "Sea water", they should be aware that Department for Environment, Food and Rural Affairs (DEFRA) regularly test sea water and that if a particular substance was found a COSHH sheet would be available from the source via DEFRA. You may well use other substances in your operations such as disinfectant or detergents for the cleaning of wetsuits etc; these would come under the COSHH regulations.

These regulations require employers to:

- Perform a risk assessment, and make arrangements to reduce those risks.
- Control the risk of exposure of employees to substances hazardous to health.
- Provide suitable protective equipment and clothing.
- Provide information, instruction and training for employees exposed to such substances.

Reporting of injuries, disease and dangerous occurrence regulations 1995 (RIDDOR)

Reporting of injuries, disease and dangerous occurrence regulations 1995 (RIDDOR).

These regulations require:

- Any serious work-related or public accident to be reported within 7 days.
- The report to be sent to the nearest Health and Safety Inspector or Department of Environment.
- A report to be made if an accident results in being off work for more than 3 consecutive working days.
- Records of reported incidents to be kept.

Serious work-related accidents that need to be reported are:

- death
- serious injury
- loss of consciousness from lack of oxygen
- poisoning requiring medical treatment
- hospitalisation for over 24 hours

Coasteering

Coasteering is a relatively new and developing activity that involves swimming, climbing and jumping along a section of coast line. Coasteer routes explore caves (a) and gulleys; jump from sheer rock faces into deep water (b); Boulder/traverse along sections of rock and play in the moving water around rocky features (c).

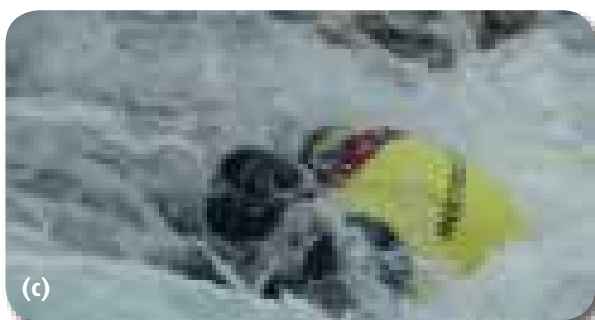
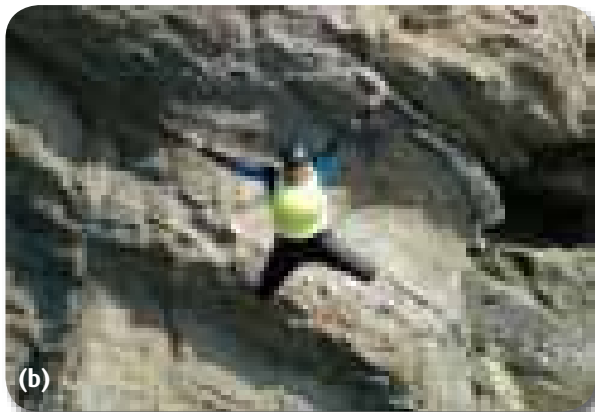


Figure 1. Photographs of a coasteer instructor; (a) exploring caves, (b) jumping from sheer rock face into deep water and (c) playing in moving water around rocky feature.



Operating procedures

Normal Operating Plan (NOP)

Details of the Coasteer, including, for example, access and egress points, escape routes and a plan of the Coasteer route:

- potential risk factors
- dealing with clients (safety education, controlling access and others)
- first aid supplies and training
- details of any emergency equipment together with maintenance arrangements
- communication, back-up systems
- call-out procedure for other emergency services
- incident reporting procedures
- systems of work, including:
 - lines of supervision
 - call-out procedures
 - tidal constraints
 - Guide training
 - numbers of Guides for particular activities



Emergency Action Plan (EAP)

Action to be taken in the event of a foreseeable emergency, for example:

- discovery of a casualty in the water
- first aid scenario
- disorderly behaviour
- Rock fall
- missing person

The procedure should be explicit and concise.

Health, Fitness and Safety

Why do people rescue?



Surf lifesaving from its outset has been action based and practical in meeting safety needs. As such, the people involved tend to focus on the casualty. This could become hazardous as the intent is to do the best thing for people in difficulty. Guides, even experienced ones, can forget about themselves. Multiple drownings are characterised by this and each year typical situations repeat themselves. Experienced Guides will recognise these examples:

1. A family member, forgetting that he/she cannot swim, will jump into the water to assist a struggling child.
2. People in areas near casualties taken by currents enter the current to attempt rescues.
3. Nearest emergency service personnel enter the water without equipment before waiting for backup.
4. Guides, trained in one type of water rescue, attempt to rescue persons in a water environment they are unfamiliar with such as white water.

A Guide must have as much concern for himself and colleagues as for the casualty.

The focus should be on the situation rather than exclusively on the casualty.

Also, rescuers should be aware that they may not have had exposure to all types of water rescue. Guides, for example, are not trained for cliff rescue.

If you haven't trained for it, don't do it.

Body Stress

Body stress plays its part in reducing decision-making or reaction time. Guides should be protected from the environment and take breaks between Coasteers. They should not be expected to be in peak condition at the end of a day.

- **Internal** – Chemical: i.e. alcohol or drugs. Behavioural : i.e. personal outlooks, bias or perception.
- **External** – sun, wind, heat, cold.

Guides are affected by water in three ways:

- the cold
- the unpredictability of water movement
- the force of water movement

The colder the Guide becomes the:

- less clearly they think
- less quickly or adequately they can respond to changes in currents
- less strength they have to deal with the force of water



Training Aims

- **Regular** - between three to five activity sessions per week. It is important to maintain year-round fitness. Guides who do little or no exercise during the winter are placing themselves at risk of not being able to get fit enough to be able to rescue casualties or themselves. The Coasteer environment is no place to begin a get-fit programme.
- **Stretch** - all major muscle groups in the body before using them. Stretch slowly and without jerking movements. Immediate response may be required at the start of a session. It is advisable to warm up and stretch each morning prior to any sessions.
- **Swimming** - regularly in conditions likely to be needed in rescues and wearing Coasteering PPE will give in-water conditioning. Dry land training only will not maintain fitness for water rescue.
- **Swimming rescues** – practise using scenarios including, entry and approach swimming skills.
- **Rescue equipment** – do workouts using rescue equipment such as tubes, throw lines, tow lines and fins. Fitness and skill building is then combined.
- **Intensity** – this needs to be increased progressively to maintain best physical condition. This is best accomplished by increasing:
 - total work (swim further)
 - work rate (swim faster).
 Increases should be done gradually as progressing too quickly can lead to overuse injuries.
- **Stamina** - is required for Coasteering work. Sprint-type workouts should be combined with those designed for endurance to recreate the long days and possible explosive reactions to any situation.
- **Aerobic** - training with emphasis on exercising the cardiovascular system. Individuals who have a low level of fitness are recommended to have sessions of 15–60 minutes of steady activity for the development of endurance-type fitness at least 3 times per week.



Exercise sessions can be wasted if the activity is not at an intensity high enough to stimulate the heart and provide a training effect. A rule for the active person is that the desirable upper level of effort is reached when it becomes difficult to maintain a conversation whilst exercising.

Target heart rate ranges for different age groups:

Age (years) (beats per minute – bpm)	Target heart rate
15	150–180
20	150–180
30	140–160
40	130–150
50	120–130
60	110–120

Diet

A lot has been written about diet that is confusing. Long-term advice is simple – do not over eat and exercise regularly. Food provides us with a wide variety of essential nutrients that are required for activity or keeping warm. Water is essential in the diet since all the body's tissues contain water. It is continually being lost from the body in urine, perspiration and through breathing. It is very easy to become dehydrated when working in and around water.

Alcohol and Swimming

With alcohol, judgement is impaired and more risks are taken. A swimmer who has been drinking alcohol tires more easily and his body temperature drops more quickly. Severe cramps may follow. Guides should not drink alcohol the night before patrol or other duties as blood alcohol levels remain high for 12–20 hours after the last drink.

A raised blood alcohol level impairs judgement and places both the rescuer and the casualty at grave risk because it causes blood vessels to open or close at the wrong times. Thus the skin loses more heat from conduction, evaporation and radiation. If a swimmer gets into difficulties, he is more likely to vomit and inhale stomach contents into the lungs. Particular attention should be paid to Hen and Stag do parties, regular customers to Coasteering providers.

Cigarette smoking

Nicotine from tobacco causes blood vessels at the extremities to contract and affect circulation. This affects Guide-handling ability and increases stress on the heart.

Smoking also affects breathing, resulting in reduced lung capacity hence less oxygen intake. In an incident this is very important as the rescuer has to deal with his emotions (adrenaline) and increased heart rate and breathing.

Smoking is the health disaster of our present society. Its contribution to disease in the heart, lungs and blood vessels is enormous.

Ear protection

Earwax has an anti-microbe water-repellent coating. Removal of this earwax by the action of sand and salt can cause 'swimmers ear'. The addition of cold water can cause bony growths (exostoses) that further trap debris causing symptoms of pain, inflammation, itching, hearing loss and discharge. Guides can prevent these by:

- **Waterproofing** – use silicon earplugs to prevent water entry.
- **Warmth** – wear wetsuit hood/swim caps.
- **Clear** – gentle outer ear drying and tilting the head can be helpful. Avoid reaching into ear.

SLSGB recommend that anyone involved in regular water activities use high quality ear plugs.

Infection control

Guide exposure to infections is most likely through mouth-to-mouth or bleeding wounds. The most effective way of avoiding contact is through the use of a face shield or pocket mask and gloves. This can be stored in a Buoyancy Aid pocket or Dry bag. It is only of use if kept available at all times by the Guide. After any coasteering session Guides and participants should wash their hands with soap and water. There have been various cases of high bacteria load in coastal waters, common complaints include diarrhoea and vomiting.

Recommendations on exposure to blood during rescue

- Avoid skin contact with the casualty if possible – wetsuit/gloves.
- Avoid contact with bleeding areas when moving the casualty from water.
- Wash off any blood as soon as possible
- During deep water expired air ventilation (EAV), wash any blood or bodily fluids away from the casualty's mouth before contact. Guides mouth to be washed out after contact.
- If possible, move the casualty to a dry area to prevent further in-water exposure.

Recommendations on exposure to blood during medical treatment ashore

- Assume all blood and bodily fluid is infected and treat as such.
- Use resuscitation masks with a system that prevents bodily fluids from passing through mask and thoroughly wash and sterilise after use.
- Wear gloves for handling any casualty who is/has been bleeding or any other bodily fluids that may be present.
- If the casualty is bleeding profusely, for example from an artery, also ensure your eyes are protected and that you are wearing clothes or a wetsuit. Keep your mouth closed.
- Wash hands with soap and water after contacting blood/bodily fluids, even if gloves are worn.
- Wear gloves. Clean up blood and bodily fluids on equipment with a germicide then air dry.

Needles and Sharps

Although relatively rare in the Coasteering Environment, areas such as coastal paths, small coves and car parks are common areas to discover needles and sharps. A full description on the safe disposal of sharps is in the appendix E of this manual.

Remember:

- Danger – wear gloves when picking up used blades and needles.
- Hepatitis B vaccine is recommended for all those at high risk to exposure.
- Protect feet wherever possible, even when changing.

Handling and moving

33% of all work related incidents in the UK are due to manual handling. Dealing with these incidents is estimated to cost around £3 billion a year. Coasteering operators and Guides are under legal obligation to follow the Manual Handling Operations Regulations 1992 to avoid injury.

Preventing musculoskeletal injury

- Avoid lifting or apply approved moving techniques.
- Decide on own individual capability.
- Keep fit and exercise.
- Avoid constant standing or sitting in one position.
- Use warm up exercises whenever possible.

The nature of Guide work on one of the roughest and most inaccessible coastlines in Europe means that there is great risk of back injury and every effort must be made to avoid the risks.

Any technique taught should bear in mind the principles of good moving. For some operations, such as extricating a casualty in a Coasteering environment, it may not be possible to follow all the principles due to the operating conditions. However, known situations such as taking casualties/patients from the water can be planned for (for example, once 'contact and control' has taken place, the rescuer has time to decide on the most appropriate method of extraction).

The Handling of Patients:

There are four situations that can be described as emergencies. In these situations the victim must be moved to safety immediately and there is no time to get equipment or plan the move. Risks may have to be taken. These situations are where a person is:

- in water in imminent danger of drowning
- in an area that is **actually on fire or filling with smoke**
- in danger from explosion or gunfire
- in danger from a collapsing building or other structure including rock fall

These situations are extremely rare even for the emergency services.'

Clearly if the casualty has buoyancy, is breathing and is in a secure position they are not in imminent danger.

Preparing to move

- Clear the area before starting.
- Plan a route that is clear of obstacles.
- Explain to the casualty what you will do. Beware if they are incapable of understanding.
- Use the whole hand to hold: fingers are very weak.
- When moving as a team, the person at the casualty's head gives the lift instructions.
- The instructions must be clear, authoritative, rhythmical and easily understood.

DO NOT use numbers. The Command 'Ready, brace, lift' should always be used.

Principles of handling and moving casualties

- How else can the load be moved? Is it essential?
- **TILE O** assessment
(Task, Individual capability, Load, Environment, Other factors).
- **Four P's**
(Plan, Prepare, Position, Perform).
- Use the minimum of movement and tell casualty to keep still.
- Always explain before doing movement.
- Use equipment for the job (Spine board & straps) or hold clothing.
- Move carefully to avoid stooping, twisting or bending back.

A person's centre of gravity is just in front of the base of the spine. The feet bound an area called the base. When the body moves from the area of the base the body is no longer at balance and will fall. A good base is one shoulder-width apart. The base is maintained while moving by keeping the back foot pointing outwards.

Good lifting points

Feet Position	Closest to weight – balanced
Back	Straight back without being absolutely rigid. Avoid twisting trunk
Shoulders	Level, avoid reaching forward
Leg	Use leg muscles, bend knees and hips
Chin	Look straight ahead
Arms	Close to body
Grip	Palm of hands, and hands no wider than shoulder-width
Body Weight	Counter-balance with your own body weight
Clothing	Avoid lifting by clothing that can move
Injuries	Be careful not to injure casualty



Casualty Recognition

Three skilled Coasteer Guide should anticipate and understand behaviour patterns of people in given environments and situations to prevent rescue, for example:

- age Extremities
- unstable people
- overweight people

The drowning process

There are three distinct stages:

- 1 – distress
- 2 – panic
- 3 – submersion

Distress

This is where a person has difficulty in getting to safety but has enough skill or buoyancy to stay afloat. They can wave or call for help. Some people may not know they are in trouble, for example someone swimming against a current, which could mean they present the “distress” for seconds or minutes. Often in such cases, Guides can see the danger yet casualties complain they do not need rescuing because they do not feel helpless (distressed). Guides should intervene and assist to prevent exhaustion.

Panic

This follows on from the distress stage as the swimmer loses strength, or panics on sudden water entry or depth increase. This is the classic ‘climbing ladder’ stage, as the casualty just concentrates on getting air and cannot call for help.

Submersion

Most drowning’s occur due to victims sinking and rarely from floating face down, which is why the use of Buoyancy Aids is essential.

Successful recoveries also rely on getting the casualty out quickly to medical attention although cold freshwater rescues have occurred up to an hour after submersion. The ‘window of success’ is likely to be as little as 2 minutes. It is essential that rescues occur at the Distress and Panic stages.

Sudden drowning syndrome

This occurs because of existing injuries or illnesses, unrelated to drowning conditions, occurring while casualties are in the water. Someone may suffer a cardiac arrest, epilepsy, spinal injury, severe trauma, too much alcohol/drugs and other illnesses. No struggle may be present or indications shown, nor hazards near. Hence, for a Guide it may be extremely difficult to spot before submersion. Therefore effective group management and supervision is essential.

Definition of drowning

Drowning -

is the process of experiencing respiratory impairment from submersion or immersion in a liquid such that normal breathing is prevented.

Immersion -

implies that at least the airway and face are under the water, though the rest of the body may be floating.

Submersion -

requires that the whole body be below the surface of the fluid.

Aspiration -

is the process of solids or fluids entering the lungs.

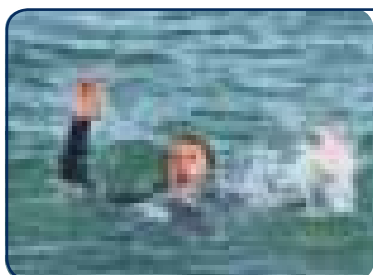
A casualty that has experienced any part of the drowning process from distress to submersion has had a “drowning event”. The outcomes of a drowning event may be death, recovery, or symptoms associated with the drowning process. These symptoms vary from cough, shortness of breath and vomiting, to delayed infections, respiratory distress and psychological responses. Remember that a casualty may have other medical problems that may or may not be associated with the drowning event e.g. trauma, asthma, heart attack, epilepsy.

Whether the casualty survives or not, they have been involved in a drowning incident.

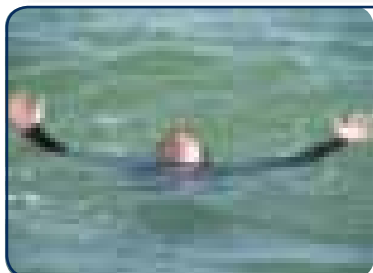
Even if a casualty is rescued and feels “well” they can have significant problems associated with the drowning event. This can occur up to 72 hours after the event and so all casualties should be reviewed by medical personnel in hospital.

Signs of drowning

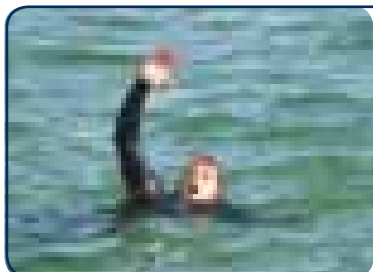
It is important to be able to recognise the person in difficulty and distinguish the real cases from those having fun. Common signs of a person in trouble are:



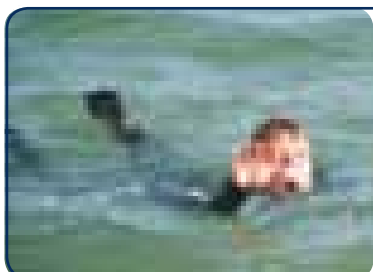
Flailing of the arms simultaneously, **this condition demands immediate response**. Waving for help is relatively uncommon because a distressed swimmer concentrates on using their arms to stay afloat.



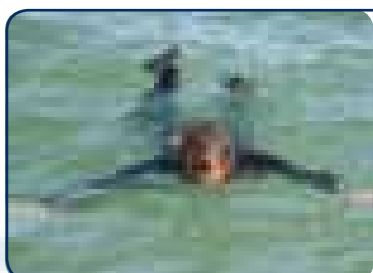
A stroke that barely clears the water with no visible kick is evidence that the individual is a very poor swimmer. Good swimmers will usually have their chin well clear of the water. **Close attention should be given to this person.**



A 'climbing the ladder' motion with the head tilted back is a person in need of **immediate help**.



Unable to cope with the situation or environment, i.e. waves breaking over their head. Competent and comfortable swimmers will usually duck under waves and negotiate obstacles. **Take immediate action.**



Water washing over their head with obvious attempts to get air, this swimmer is in imminent danger of unconsciousness. **Take immediate action.**

Incident Management

Missing Persons

A missing person on a guided Coasteer is unlikely, correct group management in accordance with the NOP should prevent this.

If however someone is missing the following protocol should be adopted:

- The Guide must start a well strategized search.
- One Guide should stay with the group, ideally out of the water; whilst another is sent to check the last section of the Coasteer. VHF radio communications are invaluable in a situation such as this.
- Reassure the group and consider an emergency exit.
- Follow the EAP. The Maritime and Coastguard Agency, state that any missing persons should be reported immediately.
- All incidents of missing persons should be recorded and the incident reviewed.

Water or land?

Once a person has been discovered missing, the group, particularly if a child is involved, will inevitably fear the person has drowned.

Water

- Immediately initiate a water search in the area last seen/visited.
- Obtain details that are required to pass onto the Coastguard.
- Radio the Coastguard on Channel 16 giving the details you know.
- Keep the group together.

Land

Although less likely, a missing person incident whilst on land is possible.

- If uncertain that the missing person is on land, do a rapid search around the water.
- Check the individual did not go to the mini bus, accommodation or any other known place.
- Get a group member to phone their accommodation or check it, and return if close by.

If the person is not found within 30 minutes the Police should be contacted via 999.

Remember to tell all involved in the search if the person is found including the emergency services.

Water-based incident

In the case of a water rescue, one Guide should manage the group safety. Alert other Guides if in a larger group. All possible assistance should be summoned to assist a Guide in the water if required.

Coasteering activities must be stopped and the group managed. The Guide coordinating the rescue should decide whether to call the Coastguard. The Coastguard must be called if the situation is likely to deteriorate and further assistance might be required.

Land-based incident

If the casualty is accessible to the Guide and in no danger (for example rock falls or rising water) call for assistance immediately and then assist. Remember to prioritise your safety first then initiate treatment. Any serious land-based incident caused by a fall should be treated as a possible spinal injury.

Cliff incidents/falls

The Coastguard should be contacted immediately with falls over cliffs in tide-affected zones/inaccessible areas. They will automatically call an ambulance. In the case of a serious wound, fracture or spinal injury (multi-system trauma), do not move the casualty unless absolutely necessary. Wait for the emergency services.

Road Traffic Incidents

There have been instances where Guides have come across coastal Road Traffic Incidents (RTI) or have been asked to help.

Call for the Police immediately. If persons are injured also request an ambulance. If persons are trapped, the vehicle is on fire or leaking fuel also request the Fire and Rescue Service.

Your safety is paramount; make doubly sure traffic is not going to affect you. All road traffic incidents are possible spinal injuries or multi-system trauma. Do not move casualty unless their life is in imminent danger. Wait for the emergency services and continue to manage your group.

Crowd control

Where the Coasteer involves beaches or accessible sections crowds may build during an incident. Control of the public is essential when a rescue is being performed. Unintentional interference by onlookers may endanger the life of the Guide and prevent the smooth conduct of the operation.

It is natural when an incident occurs for people to mill around the scene. If possible one Guide should be allocated to organise the public and keep the crowds away from the centre of the activity.

Incident size up

Upon arrival at an incident, a scene assessment needs to take place. This is known as a "Size-up". The priority on arrival at an incident is to establish what has happened, who is involved where, how and what the risks are.

A tool to aid in this process is **"CHALET"**.

Casualties

Hazards

Access

Location

Emergency Services

Type of incident

Major incidents (stress and media interest)

In the event of a serious injury or death, Guides are likely to be emotionally involved, the level of which determines the psychological trauma involved. Guides may perceive their response as a terrible failure and so feel guilty. This may become overwhelming.

This is well documented and is termed as Post Traumatic Stress Disorder (PTSD). Coasteering operators should be receptive and have procedures in place for Guides to come to terms with incidents. It should be noted that the performance of Guides during an incident can be affected and is termed Critical Incident Stress. Supervisors should debrief Guides after such incidents and be prepared to relieve Guides should it be necessary. PTSD may not be instantaneous, so those affected need sensitive monitoring. PTSD support is available from SLSGB (appendix D).

Given a Guides likely emotional state, no statement should be made to any person. The exception to this would be a police officer. The media should be told politely: 'Please contact the Coasteering operator as they will have all the details.' 'No comment' can be used but is unhelpful and may encourage further questions.

Consideration must be given to the group, Coasteering operators should provide adequate post incident support for their clients.

Communication

Radios

Effective and efficient communication by two-way radio in any potentially hazardous environment is essential.

The VHF radio has revolutionised marine safety and distress response by being able to summon assistance on Channel 16 and initiate a response via the national Search and Rescue framework.

This section gives the bare minimum needed to ensure a reasonable standard of operation. To supplement this knowledge to the required standard all Guides using Very High Frequency (VHF) radios should be encouraged to take the Royal Yachting Association (RYA) Short Range Radio Certificate to ensure a high standard of operation.

Equipment

This varies with each model and manufacturer's instructions should always be adhered to:

- ensure switched OFF
- disconnect battery from charger, attach to radio body
- switch ON
- adjust volume
- check battery condition
- check the channel settings are on the normal channel of operation (see NOP)
- adjust the squelch control until static occurs, then turn backwards slightly until noise just goes
- perform a radio check
- if only carried for emergencies the radio should be switched off after set up
- place in waterproof bag and connect to Buoyancy Aid or store in a gear bag
- ensure correct procedure is used at all times and that no accidental transmissions occur

Radio immersed in water

- switch off
- take off battery pack
- put in a bucket of clean fresh water as soon as possible
- radio to be repaired immediately (if not working)
- do not use de-watering agent (such as WD40)

Communicating

Be aware of the situation of the call sign you are addressing. They may be unable to hear due to surf noise, or unable to answer you because they are casualty working.

- **Words unevenly spaced** – preserve the rhythm of normal conversation; do not join words together or separate by abnormal intervals.
- **Speed of speech** – can you receive the message at the speed that you are sending it?
- **Too weak or strong** – do not shout or whisper – normal conversation level is ideal.
- **Sentences trailing off** – end with certainty, not allowing voice to drop at the end of the sentence.
- **Fluctuating voice** – keep consistent voice by remaining calm and businesslike.
- **Mispronounced words** – pronounce correctly and give each syllable full value.
- **Mumbling** – speak clearly and distinctly.
- **Breathing noise** – never blow into a microphone, keep it 10cm away.
- **Unnecessary Words** – think before you speak – no 'ums' and 'ers'.
- **General** – avoid jargon, avoid pleasantries and familiarity, avoid long-winded transmissions keep transmissions short.

Radio Procedure

If a person is threatened with grave and imminent danger and requires immediate assistance a "Mayday" should be issued. It is vital that any distress calls follow a strict procedure to ensure that the rescue authorities receive all of the information they need to provide assistance in as little time as possible.

For example:

- "Mayday, Mayday, Mayday
- This is Adventure Coaster, Adventure Coaster, Adventure Coaster
- Mayday this is Adventure Coaster
- Position (Grid Reference if known)
- Location (name of area)
- 3 casualties being swept out to sea
- Immediate assistance required
- Group of 8 Coasteering
- Over"

If you require medical assistance you should use the prefix "Pan-pan" and include the phrase "I require immediate medical assistance".

For example

- "Pan-pan, Pan-pan, Pan-pan,
- Falmouth Coastguard, Falmouth Coastguard, Falmouth Coastguard
- This is Adventure Coaster, Adventure Coaster, Adventure Coaster
- Location (name of area)
- I require immediate medical assistance
- Over"

Basic rules

Language – remember that many other radio users can hear what you are saying. Do not use abusive language. The Radio Telecommunications Agency monitors radio channels to check they are being used properly.

Always identify yourself – the caller should always identify themselves after calling a station.

Call signs

Call signs should be simple and reflect where the addressee is and what their job role is.

Prowords

Over	Finished speaking and require an answer now
Out	Finished and end of message; no answer expected
Correction	'It is a French, CORRECTION, Dutch boat.'
Wait	Signalling; I must pause to do something
Wait out	Signalling; I need to do something
Grid	Grid reference, figures and number to follow this
Figures	Figures; to follow this
Repeat	Repeat what you have said
I say again	I am repeating portion indicated; to follow this
I spell	I am spelling phonetically; to follow this
Radio	How is my signal strength and readability?
Roger	Received your message
Speak slower	You talk too fast
Time	Date and time are to follow this
Unknown station	Identifier said if station has not given call sign; is it you?

Using a radio in a conversation

- Listen before you speak – if you cut across another conversation, nobody will hear anything.
- Hold microphone 10cm from your mouth.
- Press the Press to Talk (PTT) button.
- Give the call sign of who you are wishing to talk to – to attract their attention say this twice, for example: “Falmouth Coastguard, Falmouth Coastguard”.
- Identify yourself using your call sign – for example: “This is Adventure Coasteers, Adventure Coasteers over”.
- Release the PTT button – otherwise you will not hear anything.
- Wait for a reply – for example: “Adventure Coasteers, this is Falmouth Coastguard, over”.
- NB: if there is no reply, repeat your call.
- Proceed with your conversation – using the correct procedures.

Number	Pronounced
1	Wun
2	Too
3	Ther-ee
4	Fow-er
5	Fa-eev
6	Siks
7	Se-ven
8	A-eet
9	Naee-ner
0	Zee-ro
Decimal point	De-see-mal

Letter	Phonetic	Pronounced
A	Alpha	Al-fer
B	Bravo	Brah-voh
C	Charlie	Char-lee
D	Delta	Del-ter
E	Echo	E-koh
F	Foxtrot	Foks-trot
G	Golf	Golf
H	Hotel	Hoh-tel
I	India	In-dee-er
J	Juliet	Jew-lee-ett
K	Kilo	Kee-loh
L	Lima	Lee-mer
M	Mike	Maeek
N	November	Noh-vem-ber
O	Oscar	Oss-ker
P	Papa	Pah-pah
Q	Quebec	Kwer-beck
R	Romeo	Roh-mee-oh
S	Sierra	See-air-rah
T	Tango	Tan-go
U	Uniform	Yew-nee-form
V	Victor	Vik-ter
W	Whiskey	Wiss-kee
X	X-Ray	Eks-ray
Y	Yankee	Yan-kee
Z	Zulu	Zoo-loo

Punctuation	Pronounced
Full Stop .	Stop
Comma ,	Comma
Hyphen -	Hyphen
Brackets ()	Open – close brackets
Oblique stroke /	Slant
Quotation marks “ ”	Quote/unquote

Signals

Signals are an important skill for the modern Guide. These signals are invaluable in the often noisy Coasteering environment and help to avoid confusion over verbal commands. As with all forms of communication it needs to be clear and precise.

Signals



OK!



Stop/wait



Move in that direction/highlighting an individual



Return to shore



1 Whistle blast: Attract the attention of the group.



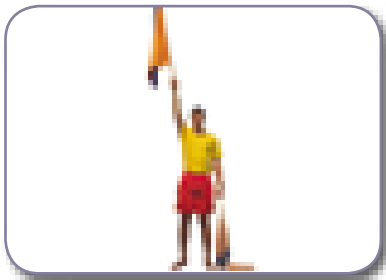
2 Whistle blasts: Attract the attention of another Guide.



3 Whistle Blasts: Guide taking emergency action.



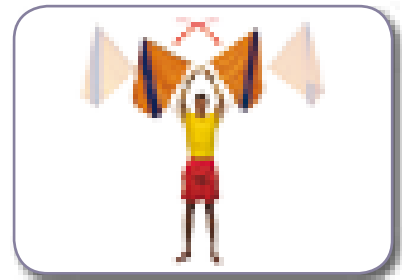
Common hand and flag signals that are used are:



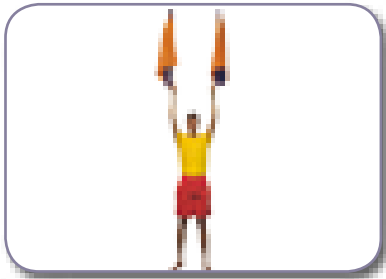
Return to Shore



Investigate Submerged Object



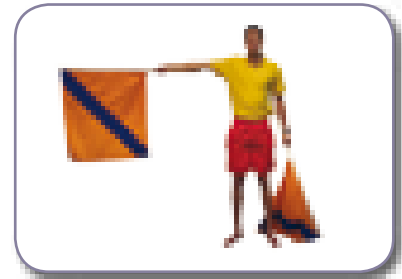
Attract Attention



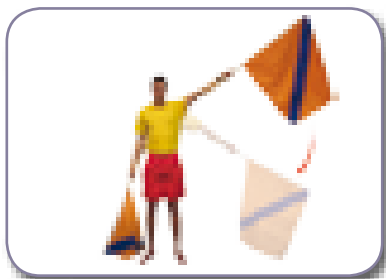
Proceed further out to Sea



Message NOT Clear - Repeat



Proceed to the LEFT



Message Understood



Remain Stationary



Pick Up Swimmers in the Direction Indicated

GUIDE SAFETY & RESCUE KNOWLEDGE

Emergency Services

Introduction

The various services available to a Guide in an emergency form a vital and important link in effectively controlling the situation. Guides must be aware of, and should be able to give a detailed description of the emergency services available in their area of operation. In serious situations or on request, the Coastguard can mobilise lifeboats, helicopters, ambulances and cliff rescue teams. In some areas the Fire and Rescue Service is the nearest source of rescue help while the Ambulance Trusts/Services are responsible for casualty care. Some of these services also have helicopters at their disposal.

The following is a basic guide and should be modified to suit a particular operation and resources available, paying particular attention to the operators NOP and EAP.

The Maritime and Coastguard Agency (MCA)

The Maritime and Coastguard Agency (previously HM Coastguard) coordinates rescue services around the whole coastline of the UK. It is responsible for the 'initiation and coordination of civil maritime search and rescue within the UK'. This includes 'the mobilisation, organisation and tasking of adequate resources to respond to persons either in distress at sea, or to persons at risk of injury or death on the cliffs or shoreline of the UK'.

The Coastguard is therefore the 'official' controlling body for all marine SAR units including, Lifeguards and Lifeboats. An effective working relationship with the local Maritime Rescue Centre (MRC) is vital; you should make them aware of your operation, emergency call sign and area of operation.

Ambulance Service

In all cases of resuscitation, drowning event or loss of consciousness, the casualty should go by Ambulance to the Accident and Emergency department. The Ambulance Service in the UK is now divided into separate trusts and, as such, each authority operates slightly differently. It is important to know what the average response time of a road ambulance is to your area of operation.

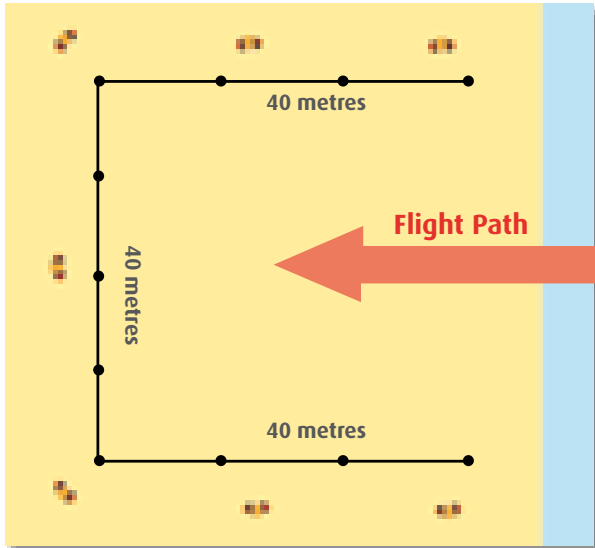
Fire and Rescue Service

Incidents involving Fire in the Coasteer environment are rare. The modern Fire and Rescue Service however has much a wider role, including dealing with hazardous materials that may have washed up, removing stuck or trapped persons as well as general support to any emergency situation.

Police

It is worth having the local Police non emergency number available. The police should always be notified if a person has been missing for more than 30 minutes on the land.

Helicopter Operations



Landing site requirements

There are a variety of helicopter operators in the UK:

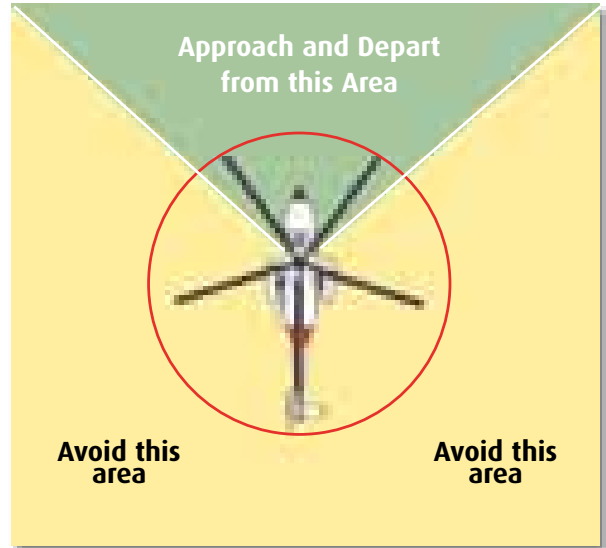
- Royal Air Force and Royal Navy Search and Rescue (SAR)
- Ambulance
- Police
- Coastguard

An emergency landing area can be defined in advance of incidents by preparing emergency action plans (EAP) with local emergency service providers.

If a helicopter response is initiated a Guide may be tasked to prepare a landing site. The minimum area to be cordoned off is 40m x 40m. The area should be flat with no power cables nearby. Ideally the helicopter can approach over water to an incident. No one is to enter the area.

All helicopters on landing cause sandstorms at over 100mph so:

- the public is to be warned of the helicopter, to hold loose objects and to keep clear
- keep debris from blowing into the area
- beware of people approaching the helicopter from the rear
- if blinded by dust or objects, stop and sit down
- do not go toward or away from the helicopter
- shield yours and the casualty's eyes



Depart and approach only from the pilots field of vision

Approaching a Helicopter

One person is to be in charge of responding to signals from the helicopter crew. Never approach unless given permission by the helicopter pilot. The hazard areas are:

Tail rotor	High speed hence unseen, 1m height, 3.5m unprotected arc.
Main rotor	Tilts below head height normally, clearance decreased when gusty winds or on uneven/sloping ground. Rotors slowing down on shutdown tilt to minimum height.
Radio antennae/radome	Contact not permitted. Capable of giving radiation injury and can be damaged when handled. Guides should always follow the flight crews instructions when approaching a helicopter.
Particle separator	This rearward facing outlet, situated above the body of the helicopter can expel debris forcefully.
Pitot Tubes	These tubes stick out from the aircraft and measure wind speed and altitude. Do not touch these as they are sensitive instruments and may become very hot.

Winching

A Guide is more likely to be involved with helicopter winching than landing of helicopters due to the type of environment they work in. Visual contact should be made with the aircraft on approach, waving of the arms or orange smoke flare. The Guide should focus on managing the group and the casualty; they should ensure the downdraft is not going to cause any equipment to be blown away. The SAR winch operator will take charge of the situation and give you clear instructions on what to do.

Air ambulance

- Keep in pilot's field of vision: 10–2 o'clock.
- Face Pilot and extend the right arm horizontally to the side with a thumb up.
- Crew or pilot will indicate where to approach. This is usually their left side.

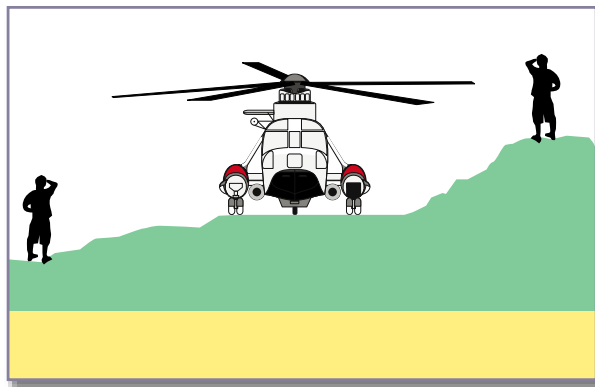
Sea King

- Keep in pilot's field of vision: 10–2 o'clock.
- Aircrew will be leaning out of a side door to check rear landing wheel is down.
- Face Pilot and extend the right arm horizontally to the side with a thumb up.
- Crew will indicate where to approach. This is usually from their open door.

Slopes

- Enter and depart under rotor from the downhill side to avoid main rotor.
- If you have to move around the helicopter to avoid the point of lowest clearance always walk around the front, never the rear.
- Watch the path of moving rotor blades.
- When carrying equipment, always carry it horizontally, below waist level.
- Always carry long objects between two people.

In uneven terrain, approach and depart on the low side



In uneven terrain, approach and depart on the low side

Loose Objects

- Hold onto loose objects.
- If loose objects are blown away do not reach up after them.
- Never remove clothing under rotor in case arms stray upwards.

Vehicles

- No vehicle to approach into the emergency area unless pilot authorises it.
- Do so only when navigation lights are switched off.

Casualties

- Protect them by shielding their eyes.

Casualty transfer

Evacuation by Air (principles of safe helicopter evacuation)

Sometimes, the most effective means of conveying a casualty to the next stage of medical care is to do so by helicopter.

The following guide to liaising with emergency helicopter services conforms to the standard required by CHAS (Confederation of Helicopter Ambulance Services) and is intended for use by ground emergency services personnel. Additional information has been included to aid the liaison between Guides and emergency helicopter services for the purposes of medical evacuation.



Air Ambulance Helicopter



Coastguard Rescue Helicopter

Requesting Emergency Helicopter Services

Medical

- Cardiac Arrest
- Stroke
- Respiratory Arrest or Difficulty (including compromised airway)
- Significant Abdominal Pain
- Drowning event

Trauma

- Reported Serious Road Traffic Collision
- Potential for Major Trauma
- Potential Spinal Injury
- Unconsciousness

Consciousness

- Pulse – less than 50 or greater than 140 bpm
- Respiration rate greater than 30 or less than 10 rpm
- Significant Head, Chest, Abdominal or Pelvic Injuries
- Burns: Adult 15% or more, Children 10% or more
- Any limb paralysis or amputation
- Two or more long bone fractures

Non-Medical

- Difficulty in reaching the Casualty
- Excessive Journey time to hospital
- Poor road access
- Delay in response times

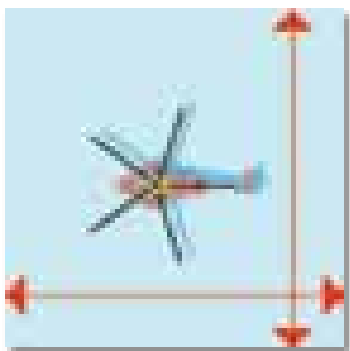
Rescue

- Any rescue that may be more safely/effectively executed using a helicopter
- Any rescue that cannot be undertaken by land or sea-borne rescue services

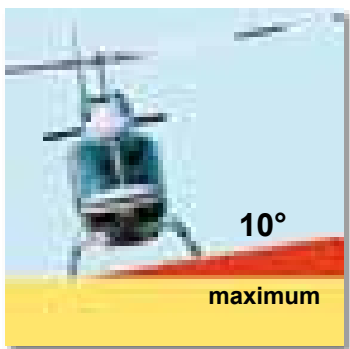
Landing site criteria

Within the 40mx40m landing site there must be an adequate landing site. The landing site must be:

Size & Shape: A Square, 40 metres x 40 metres – Minimum.



Slope: 10 degrees – Maximum gradient.



Landing Area: Clear of people, power lines, trees and animals.

Surface: Hard standing including firm sand, grass, tarmac or concrete.

Additional: 500m exclusion zone from Kites (clear as necessary).

Note: If the air crew are not happy with your landing site they will select their own.

Effective communication

Provide the Emergency Services with accurate information:

Exact location: A six figure map reference.

Type of incident: For example: Cardiac Arrest, Drowning etc.

Hazards: For example: Power lines, Tides, Paragliders and Hang gliders etc.

Access: The nearest road access.

Casualties: The number of casualties.

Requirements: The services required.

Landing site safety and casualty transfer

Checklist:

1 Clearance

Clear public, if any, from helicopter landing site.

2 Exclusion

Public to remain clear of landing zone until further notice.

3 200 metre Safety Zone

Public to secure wind breaks, tents etc.

4 Debris Hazard

Public/group to turn their backs and shield their eyes during landing and takeoff.

5 Lights/Torches

No shining of lights, torches or lasers towards the aircraft at anytime.

Medical Evacuation Checklist:

- 1** Ensure that access from the landing site to the casualty is clear of obstructions.
- 2** Protect the casualty's eyes.
- 3** Activate an orange smoke flare on the downwind side of the landing zone, on visual contact with the helicopter if available.
- 4** Give the "Place yourself facing me" signal until the helicopter begins to approach the landing site.
- 5** If at any point a member of the public ventures onto the landing site, give the "Stop!" signal to the aircraft.
- 6** Remain away from the aircraft until one of the aircrew approaches you outside of the rotor blades.
- 7** Remain in the pilots field of vision at all times (10 o'clock – 2 o'clock position) when inside the landing site perimeter.
- 8** Always approach the aircraft from downhill if directed to do so.
- 9** Never approach the aircraft from the rear.
- 10** Carry out casualty transfers under the direction of the aircrew.
- 11** Maintain the landing site clear from members of the public until the helicopter has completed its climb and commenced its transit.



Place yourself facing me



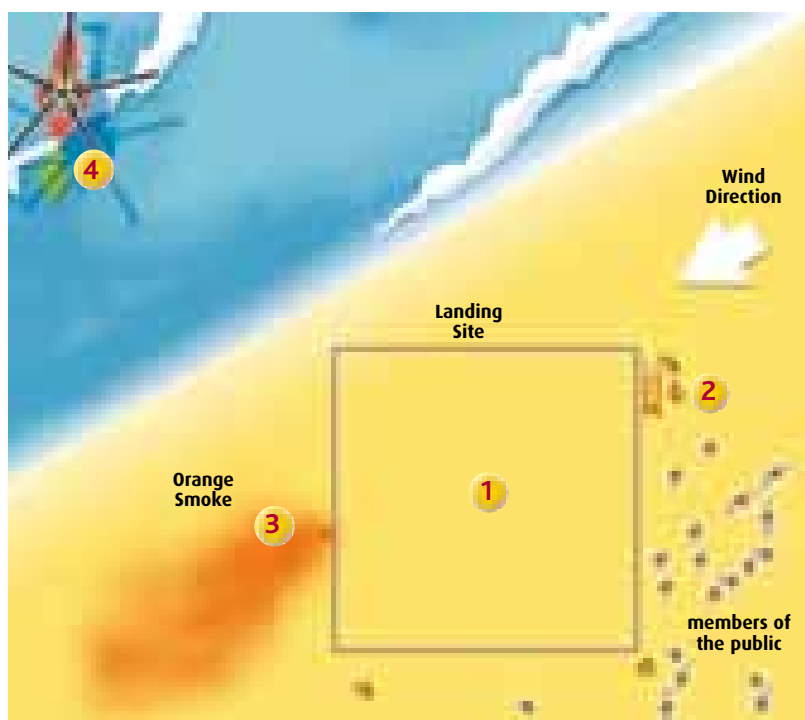
Stop!

Aircraft Marshalling Signals

Medical Evacuation by Air – A scenario overview

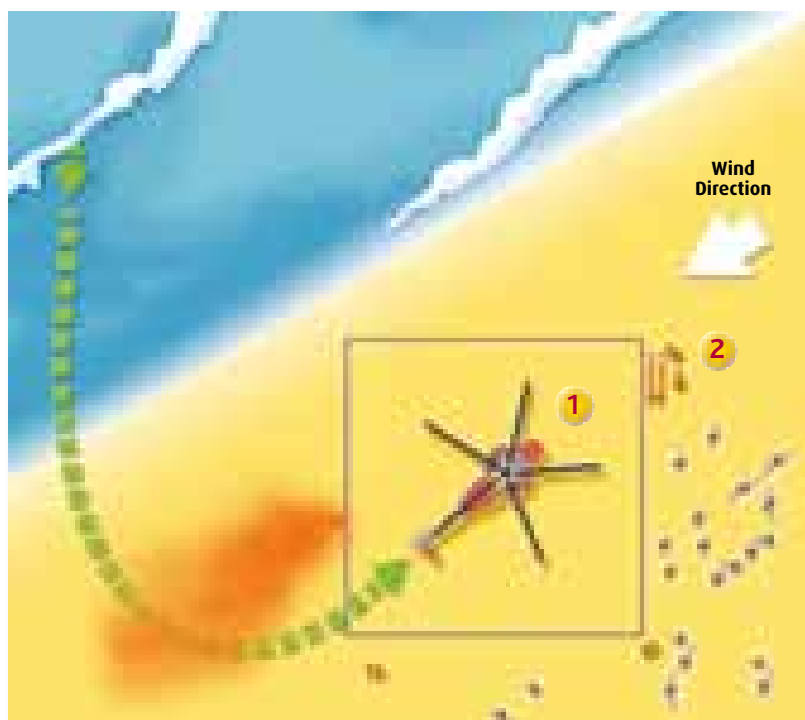
Stage 1:

- 1 Guides have managed their group and created a landing site.
- 2 The casualty has been brought to the side of the landing zone, offering easy access to the helicopter on landing.
- 3 An orange smoke flare has been activated (downwind side) on visual contact with the helicopter if available).
- 4 The helicopter pilot has seen the smoke and signal given by the Guide and alters course.



Stage 2:

- 1 The helicopter lands 'head to wind'. The pilot may choose to keep the engine running at all times throughout the procedure.
- 2 The Guides maintain their positions at the perimeter of the landing site and monitor the casualty's condition at all times. They will wait until a member of the aircrew approaches them outside the rotor blades.



Safety and Rescue Equipment

In addition to the Guides Personal Protective Equipment they should also consider carrying the following where appropriate.

Whistle

SLSGB recommend that all Guides carry a pealess whistle. It may be appropriate for all participants to also have a whistle.



Rescue Tube

The Rescue tube and waist tow line are both valuable tools in the towing of casualties. They both offer distance from a casualty and the option of quickly releasing the casualty should they become panicked and a hazard.

The Rescue Tube is a flexible tube that can be wrapped around a conscious or unconscious casualty. It is capable of supporting two casualties. The Tube should be checked for splits and cracks, particularly at the ends and along the seam lines. The rope and strap should be checked for fraying or damage and replaced if necessary. The metal clasp should be regularly checked for ease of working, the gate should snap shut. The rescue tube is not designed for lifting or lowering.

Tow Line

The waist tow line, originally designed for kayakers to tow another kayak offers a good towing option. The tow line is out of the way and unrestrictive to the Guide. The waist belt should have a quick release function, be approximately 3 meters in length and securely store the tow line and carabiner when not in use. The Tow Line sits central around the waist and offers quick and relatively comfortable towing.



Swim Fins

The use of swim fins can allow a Guide to negotiate large surf and tow casualties quickly and efficiently. Consideration should be given to the fit and the style of footwear being worn by the Coasteering Guide. Swim Fins may not always be appropriate.



RESCUE TUBE

Throw line

A throw line is an effective tool in the right hands in any dynamic water environment. The uses are numerous and include rescues, depth testing and casualty handling. In any situation where a rope is used in a dynamic water environment a blunt ended knife must be to hand. A small (10-15m) throwline stored on a quick release belt is ideal; a longer rope is not required and will present a significant hazard when deployed into moving water.

Throwline storage options, on a quick release belt or clipped to the buoyancy aid. Care should be taken to ensure that carabiners are both always stored screwed shut and that lines are never thrown with a carabiner attached. Both systems here are releasable.



Knife

Wherever ropes are used in water a knife should be available. Knives should be stainless steel with a blunt ended tip, a serrated edge is desirable. Knives should be easily located and operated using one hand. Medical shears offer a good alternative to a knife and can be used to remove buoyancy aids and wetsuits in an emergency with safety and ease.



Communications

Having access to a VHF radio is by far the best method of summoning assistance in the marine environment. A mobile phone can be useful but is no substitute for a VHF radio. SLSGB recommend that those operating VHF radios attend a Royal Yachting Association Short Range Radio Certificate course. VHF radios should be of marine quality with channel 16 available. Radios should be water resistant, and are best stored switched off in a purpose built dry pack. This should then be kept in the main gear bag.



Carrying a VHF radio does not render a mobile phone useless. The two should be carried and used in conjunction. Whilst on Land, a Mobile phone is a very efficient means of summoning assistance as well as completing other tasks such as checking in with a centre. A mobile phone should be carried in a waterproof dry pack similar to a VHF radio.

First Aid Kit

The Guide should consider the practicalities of the First Aid equipment they carry. A small first aid kit comprising of a pocket mask, gloves, military style dressing, and tape should suffice. A fully comprehensive First Aid kit should be available in the operator's vehicle or back at the centre.

Flares

Day or Night flares have various applications to the Guide. SLSGB recommend that all Coasteering sessions allow enough time to deal with an incident and still return the group safely to shore within day light hours. However an orange smoke flare is very useful if your risk assessment has highlighted that the common method of rescue during an incident is likely to be SAR Aircraft. An orange smoke flare can be let off when the Guide sees the helicopter approaching. This is particularly useful in areas where visibility is restricted or unusual wind patterns occur. Flares however are prone to corrosion which can lead to misfires and injury, storage needs to be carefully considered.

Group Shelters

Group shelters are large windproof bags designed mainly for use by groups of people in the mountains, however they have a worthwhile position in any outdoor instructors kit. They are not completely waterproof but they are windproof. They pull over the heads of the group when they are sitting in a huddle and pulls right down to the ground. They very quickly provide warmth in the most hostile of conditions and can be used for anything from simple lunch stops to more serious situations. A group shelter is made of very strong material and as such can be used as a stretcher as described on page 50 "Survival bag carry".



Survival Bags

A Survival Bag is a thick plastic bag typically designed for one person. Survival bags are very cheap and are a cost effective piece of safety equipment. Lightweight and strong, the Survival bag can provide shelter for a casualty and act as a makeshift stretcher.



Spare Equipment

Guides should consider carrying a few spare layers, particularly light windproof tops as well as Hats and Gloves. As part of a Guides equipment consideration should also be made to carrying a flask. A warm sugary drink will prove invaluable as a moral boost or if the temperature were to drop.



Guides equipped for the Coasteering environment.

Note: The Safety and Rescue equipment detailed here is by no means a guideline; Guides and Guide operators should consult their Risk Assessments and make an informed decision on which Safety and Rescue Equipment to carry on a Coasteer.

Safety Boat

A safety boat tracking or following the progress of a Coasteering group can provide an ideal working platform to manage a group and stage rescues from. However this option is uncommon, expensive and may not always be practicable. Specialist training in Rescue Boat handling should be taken such as the SLSGB IRB course.

Any additional Safety and Rescue equipment carried should be appropriate and justified. Guides must ensure they receive training in all the equipment they carry.

Rescue Tows

Rescue Tows

The general rule is that a Coasteering Guide should never be in a position where they have to carry out a contact rescue. However, should the occasion arise, the Guide must be aware of the various rescue tows available. When effecting a rescue without equipment, the rescuer should endeavour to move to an area of relative safety as quickly as possible with the casualty so that Expired Air Ventilations (EAV) can be applied if necessary. 

Cross Chest Tow

Approach the patient from behind; tell the casualty what you are about to do then reach over and across the casualty's chest, placing the hand over the shoulder and across the chest (picture a). The rescuer's other hand can be used to support the casualty's back, if required. Clamp the casualty's body between the arm across the chest and your hip and tow them using the side stroke technique. The casualty's head should be above water and close to the rescuer's head. Alternatively the rescuer's shoulder can be placed into the casualty's armpit if they will benefit from being higher in the water e.g. young children or very anxious casualties (picture b). If the casualty chooses to grasp the rescuer's arm this may allow them to feel more secure; however it should not compromise the safety of the tow or the rescuer.

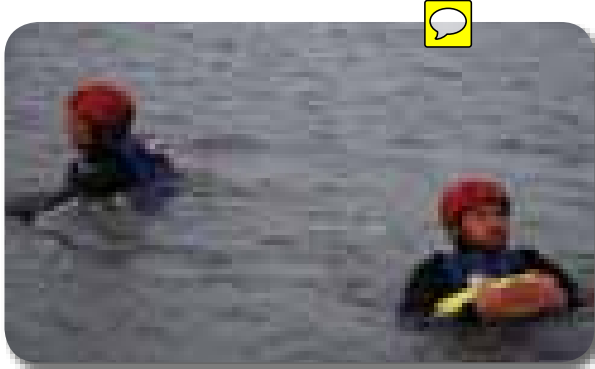


Photographs highlighting the casualty being towed close to the rescuer, therefore allowing the rescuer to securely wrap the other arm around casualty to protect the airway if required.

Buoyancy Aid Tow

Approach the casualty and grip on to the buoyancy aid shoulder straps. Extend your arm fully and swim using a side stroke. In heavy surf or within the impact zone a two hand grip utilising both shoulder straps and lifesaving backstroke may be practicable. There are many variations to this tow including holding the casualty's wrist, these tows should be used remove the casualty from imminent danger where time is critical. They are not well suited for long distances.





Rescue Tube

When approaching a **conscious casualty** verbal contact should be made when within voice range. Stop approximately two meters from the casualty and pass them the rescue tube. You must ensure you keep visual contact with the casualty at all times. Reassure the casualty, when the casualty is calm the decision should be made whether to secure the casualty and tow to an area of relative safety or to stay in situ to support and calm the casualty.

On reaching an **unconscious casualty** the Guide should determine if the casualty is breathing and what the mechanism of injury was. If the casualty is **not breathing** then the Guide should secure the casualty with the tube, administer 5 Rescue Breaths and extract. If a casualty has no visible "signs of life" the following should be considered:

- If a casualty has no visible "signs of life" they need CPR and advanced medical care, this cannot be administered in the water.
- In drowning casualties it is assumed that breathing has stopped due to water obstructing the airway and as a consequence their heart has stopped. Studies have shown a significant benefit of administering Expired Air Ventilations (EAV) to drowning casualties resulting in a much higher chance of survival.
- The casualty may have a different reason for having no "signs of life" you need to consider this during your initial assessment, e.g. Spinal injury, Hypothermia, Medical conditions.
- CPR is not possible in the water; this is what the casualty requires. Consider towing the casualty to a beach or bay or recovering the casualty onto a platform such as rocks or a boat.

- If the casualty is in a situation such as heavy swell or in a gully it may be appropriate to tow the casualty to a calm area or clear of obstructions to begin EAV.

- If exit from the water is not an option then tow to relative safety and perform EAV in the water whilst waiting for assistance.





Tow Line

When approaching a casualty the Guide must ensure they are calm, due to the nature of the tow the Guide will come in close contact with the casualty. The Guide should deploy the tow line and pass the carabiner under both shoulder straps and clip it back onto the tow line. The Guide should then pay out the tow line to avoid a sudden jerk before swimming.

If the Guides are towing a heavy or large casualty it may be appropriate to tow the casualty using two Guides, their Tow Lines should be clipped to either shoulder strap. This method could also be used whilst towing through strong currents or heavy swell. A Tow Line could also be clipped into the back of a rescue tube to effect a two person tow.

Returning to shore

The Guide should consider what the most appropriate extraction option is; this could be towing into open water to await SAR assistance or towing the casualty to a beach or bay. The Guide should give the casualty clear instructions throughout any rescue and explain what is likely to happen. In large surf the Guide should shorten any tows and grip the casualty using the buoyancy aid or the strap of the rescue tube. If a wave is about to break onto or over the Guide they should close their hand over the casualty's mouth and try to move under the wave. The Guide should instruct the casualty to take a large breath. After re surfacing the Guide should immediately check for the next wave or set. Care should be given to Tow Lines and Rescue Tube lines which may become an entanglement hazard if contact is lost with the casualty. Where any type of rope, strap or cord is used in the water a blunt ended knife should be available to the Guide.

Releases

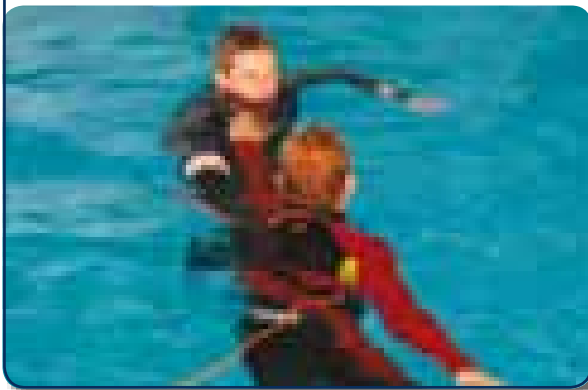


Leg Block

Leg and arm block

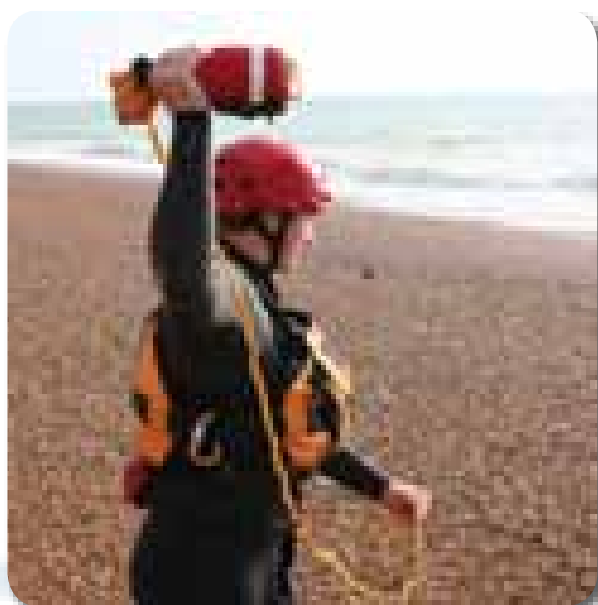
While performing contact tows, the Guide is at risk from being grasped. As the approach is from the front the normal grasps are likely to be to the arms or to the head. It is essential for the Guide's safety, while contact tows are being taught, that releases from restrictive holds are also taught.

Arm Block



Throw Lines

A throw line can be deployed in many ways, the most useful to the Guide is the under arm throw for distance and the over arm, javelin style downward throw for short accurate throws. The bag should be undone and a small amount of rope should be pulled from the bag and held in one hand with the bag in the other. Clear communication should be made to the casualty as to what is happening and what to do upon receiving the rope. Guides must ensure they are in a stable position and that the throw is not going to put the Guide off balance and into danger.



The casualty should be instructed to grasp the line with two hands, and lay on their back with the line running over their shoulder. The Guide should immediately move to a low position and grip the rope as shown. A second Guide can hold onto the rear of the first Guides buoyancy aid to anchor them safely. The casualty should be hauled in hand over hand.



If the Guide misses the casualty with their first throw then they should immediately haul all the line in making neat lap coils into their palm. The Guide should then fill the now empty bag with water and re throw.



A Throwline can also be used to measure the height of a drop or the depth of water; this is particularly useful in an area less frequented or after rock fall. The rope can be marked at 2 meter intervals with a suitable ink (note: not all inks are suitable for marking ropes). The bag can then be filled with rocks and sunk or dropped like a plumb line reading the depth/height from the marked rope.



Seizures

A casualty having a Seizure in the water is very distressing for the group to witness. Swift and effective group management should be employed. The Guide should ensure the casualty is face up, and if necessary moved away from rocks into open water. They should support the casualty and if required ask for the assistance of another Guide to further support the casualty in the water. Rescue Tubes can be placed under their hips and legs to further aid support. Take note of the exact time the seizure started and the duration. Post seizure the Coasteer should come to an end, it is recommended anyone having a seizure in water should seek medical advice post incident.

Emergency help must be sought if:

- the seizure lasts more than three minutes
- the casualty's levels of response do not improve after ten minutes
- the casualty has a second seizure
- the casualty has no known medical history of seizures
- you are unsure

Casualty Handling



The Casualty Drag

Following the rescue the casualty will need to be moved to a safe area for further treatment and assessment. Guides should signal for assistance if they feel they need it, normally Guides will have the assistance of at least one other Guide but effective communication is vital. However in some cases the Guide may be required to deal with a casualty on their own. In this instance the Guide may be required to support or drag a casualty to safety on their own. Care should be taken to avoid injury, an assessment of the task and associated risk should be made. If in doubt it is best to support the casualty in the water and wait for assistance.

One Person Carry

Good operating procedures should almost entirely eliminate the injury risk to Guides doing solo drags by ensuring adequate Guide ratios are in place to assist in a rescue as well as maintain control of the group. However should it be necessary for one Guide to extract a casualty from the sea this method provides the safest most effective way of doing so when extracting a casualty onto a beach.

Note: This technique poses significant risk of injury to the Guide and Casualty and should only be used in extreme cases. The Two person drag is far safer.

1. Grasp the casualty under the shoulders, hold the opposite wrist with one hand and maintain an open airway with the other. Try and lift the casualty onto your chest, lift and drag keeping a straight back. This is also a very secure position to await assistance if in shallow water. If the casualty is conscious then they should be held up under the armpits or by using the Buoyancy Aid to drag.
2. Stand upright and drag the casualty up the beach looking over your shoulder to observe any hazards
3. Lower the casualty onto their back, taking care of their head, and assess for breathing. If breathing is present the casualty should be placed into the recovery position facing down the slope. If the casualty is not breathing the buoyancy aid should be cut off and CPR initiated.



Two Person Carry

This method, although preferred to the one person carry, can also be a risk to the Guides as it again involves lifting a heavy and awkward object.



1. The first Guide should support the airway as previously mentioned in the one person drag. The second rescuer should come into the casualty's side and both Guides should place their shoulders under the casualty's armpits and grasp the casualty around the waist as shown. The head should be supported from the rear by one of the Guides. Effective communication is vital.



2. Care should be taken to avoid twisting or bending the spine. During the lift and carry the airway must constantly be open by holding the back of the head. The Guides should walk slightly towards each other to add pressure to the casualty and prevent them from slipping between the two Guides. If the casualty is felt to slip at any stage of the drag it must be halted immediately and if required lowered swiftly to the ground to allow the Guides to re adjust their positions.

In situations where the casualty is very large or the terrain complex it may be appropriate to drag the casualty using the shoulder straps of their buoyancy aid or where applicable the strap of the Rescue Tube during either drag.

Recovery onto rocks

There will often be situations in the Coasteer environment where a casualty will need to be recovered onto a suitable ledge or rocks to perform CPR or render other medical aid. Attention should be given to the environment with particular care toward the potential for rock fall and the surface which you will be working on.

In such a situation the Guides should pull the casualty up onto the ledge using the shoulder straps of the casualty's buoyancy aid or under the casualty's armpit. Guides should ensure they keep low and maintain straight backs. Where the lift is more vertical keeping a straight back is essential. The buoyancy of the buoyancy aid can be used to the Guides advantage when lifting a casualty vertically by pushing the casualty slightly down into the water prior to lifting.





There may be instances where a casualty is able to climb out of the water themselves, in such a situation it is advisable that there is one Guide sending the casualty from the bottom and one Guide receiving the casualty from the top. Here the sending Guide is using the Rescue Tube for additional floatation but also has the tube readily available should the casualty require support.



The following are possible methods for removal of the casualty from the scene of the incident. A balance between risk and benefit of mobilising the casualty, in the local conditions using these techniques, must be considered before use. e.g. carrying a casualty around a cliff face may prove more dangerous than beneficial.



Survival bag carry

A single person survival bag is a very effective improvised stretcher. The bag should be laid out flat with the casualty in the centre. Due to the nature of the material it is possible to slide the bag under a casualty who is unable to move. The sides should be rolled toward the casualty to provide a hand grip.

Four Hand Seat

A very simple and quick method of moving an injured casualty, particularly one with a lower leg injury. The hands of the Guides are joined as shown. The casualty is then lifted whilst sitting on their hands, supporting themselves on the shoulders of the Guides.



Split Rope Carries

The throwline must be coiled using a method that mountaineers call a "classic coil". Just over a full arms length of rope is measured and coiled. The action is repeated until all the rope is coiled. The coil is then tied off as shown.

Once tied the coils are split into two. Each of the Guides wears one set of coils over one shoulder. The casualty is then carried as if they were sitting on a swing.



Spinal Extraction from Water



Please Note: Coasteer clients should not jump from higher than 9 metres or climb unprotected above their shoulder height where there is likely to be insufficient depth of water for safe landing. *

Increasing the height of the jump or fall increases the likelihood of injuries. The risk of injury is further increased if the landing is awkward. The greater the height, the greater the speed: therefore a larger amount of energy being transmitted through the body with a greater chance of causing an injury.

The following table illustrates the height of a coasteer jump and the resulting speed that they will impact with the water.

Height (m)	Speed (kmph)	Speed (mph)
0	0	0
1	15.94	9.96
2	22.54	14.09
3	27.61	17.25
4	31.88	19.92
5	35.64	22.27
6	39.04	24.4
7	42.17	26.35
8	45.08	28.17
9	47.81	29.88
10	50.4	31.5
11	52.86	33.04
12	55.21	34.51
13	57.46	35.92
14	59.63	37.27
15	61.73	38.58
16	63.75	39.84
17	65.71	41.07
18	67.62	42.26
19	69.47	43.42
20	71.28	44.55

* Assuming air resistance is negligible

A spinal injury should be suspected in any person who has:

- Suffered a heavy blow to the head.
- Significant facial or head injuries.

- Fallen from a height above that of their own height onto a solid surface.
- Been discovered unconscious in the water.
- Landed awkwardly in the water or on land and is complaining of back or neck pain.

The Guide must carefully assess the situation in order to determine the appropriate course of action and ensure it is safe for them and their group.

Points to be considered:

- Guide and group safety.
- The Guides size and ability in relation to the casualty.
- The casualty's condition (breathing or non-breathing).
- The location of the incident.

Priorities for the management of spinal injuries are:

- Guide and group safety.
- Airway management.
- Manual In Line Stabilisation (MILS) of the neck.
- Organising assistance.
- Removal from the water.
- Advanced medical care.

It is not possible for a single Guide to remove a casualty suffering from a suspected spinal injury from the water effectively. Instead the correct method will require a team of five consisting of a minimum of two qualified Guides who hold the CSR qualification and three others which can be clients or other Guides. Where a non-breathing casualty has a suspected spinal injury, with minimal suitable assistance available, the casualty should be removed from the water to commence resuscitation by the safest and most appropriate method. The priority is preservation of life the second priority is the possible spinal injury.

Members of the group with no understanding of the situation may be utilised, if this is the case, clear instructions must be given at all times by the qualified Guide in charge of the casualties head. Ensure the question "Are you happy to help" is asked before recruiting help from members of the group, it is their choice.

Coaster Rescue of a Suspected Spinal Injury in the water

After the recognition of a suspected spinal injury, the coasteer guides should work as a team to ensure the safety of the remaining group, rescue the casualty and provide appropriate aftercare. The following points should be used as a basis for this process, but will require adaption according to the prevailing environmental conditions.

Check for Danger

All instructors must check for dangers to themselves and then the whole group. The Guide should quickly assess the situation and ensure it is safe for the team to enter the water and decide on the best course of action. They should signal for assistance, before entering the water

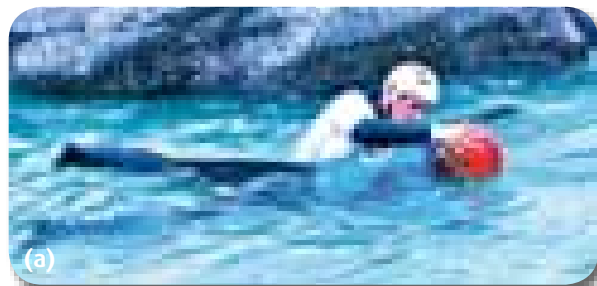
Ensure Group Safety

One instructor must ensure group control and safety by either rafting up the group (linking arms in the water), remove the group from the water or stop any further entries into the water.

Rescue phase 1

- The initial approach to the casualty should be rapid. When approximately three metres from the casualty the approach should be slowed, this minimises any wash and unnecessary movement.
- The rescuer should approach the casualty from the side and secure them using a "vice grip". If they are face down in the water a patent airway is the priority and they should be rolled onto their back using a vice grip turn. Thus placing the casualty face up with their airway clear of the water (see pictures a-d).
- They should assess the casualty's response and breathing, (look, listen and feel), for ten seconds.
- They should then inform the other guide(s) of their findings e.g. "They are breathing and I suspect a spinal injury"

The vice grip position of the arms; with one forearm along the sternum to the jaw and the other along the spine to the back of the head in a "vice grip" position (a and b).



Ideally the hand should be on the head, but placed upon a close fitting helmet will be sufficient initially. This is with the aim of immobilising the cervical spine region whilst rolling.



The (rescuers) shoulder which is deepest in the water should be "dropped" such that the rescuer becomes completely submerged and travels underneath the casualty. The casualty's body will remain on the surface of the water as it rotates (c).

The casualty will now be face up, their airway will be clear of the water and their spine will be aligned in the neutral position (d).



Removing the Group from the Water and Calling for Help

If the casualty is suspected of having a spinal injury and is breathing, one guide must remove the group from the water to safety. They should call for assistance or radio, using channel 16, stating there is a breathing casualty with a suspected spinal injury and that the group is secured in a safe place. The group and the casualty locations should be stated and confirmation that the emergency action plan is in place.

Deep water 2 person Immobilisation of the Casualty

- If the first guide is comfortable with the vice grip and it is a relatively small casualty, the second guide can clip into them and tow out to sea or the extrication point.



(f) Casualty immobilised in the 'Spinal Hug' position by one guide, while the other guide provides the tow.

- The first guide should maintain immobilisation of the head and neck in a 'vice grip'; the second guide should explain to the casualty that they will take the head in a face to face position (see picture d) and they should not try to move; clearly stating "I'm on" to the other guide. The first guide will confirm, "I'm off". The Face-to-Face guide is now known as 'On the head' and coordinates team and movements. (In some situations it may be appropriate for the second guide to float under the casualty and take over the spinal immobilisation without going "face to face".)
- This is the ideal time for the guide positioned behind the casualty to position a Peterson tube around their own body with the towing strap out behind them (or if using a towline let the other guide clip you in once you are back on the head).



- The guide who has just released the vice grip can re-position their hands over the top of the guide on top and place their forearms along the shoulders of the casualty. Clear commands are very important (Picture e).
- Once the guide behind the casualty has hands in position on the head they should bring their knees up to lock around the casualty. (Picture f).

Extra Coasteer Rescue Lifesavers can stabilise the casualty from the side, floating the casualty on their knees facilitating the extra buoyancy.

Rescue phase 2

Now the casualty is in a stable position and decisions need to be made regarding the further management of the situation. Specifically whether to stay in position move out to sea or extricate the casualty. Important considerations:

- Group Safety.
- Results of the Primary Survey – obviously this will be limited to whether the casualty is breathing or not, and presence of potential spinal injury.
- Any obvious trauma.
- Prevailing sea conditions and potential for hypothermia, or risk to rescuers.
- Ease and location of **extrication** considering physical environment and available personnel to assist.
- Proximity to emergency rescue services.

It is important to consider that the longer an immobilised casualty spends in the water the more likely they are to become hypothermic. After a prolonged period immersed in the water the casualty is also at risk of circum-rescue collapse. The group are also at risk of becoming cold if left hanging around for too long. There are 3 options for this phase of the rescue.

Option 1: Remain in position

If it is not possible to immediately remove the casualty from the water, emergency services are on their way and it is safe to remain in that position then an option is to:

- Remain in current position
- Monitor casualty and group safety
- Hand over to Rescue / Emergency Services.

Option 2: Tow the Casualty to extrication point.

Once the group's safety has been ensured, help has been called for and sea conditions allow the guide team can tow the casualty to an extrication point. (Pre-determined in the Emergency Action Plan).

Option 3: Tow the Casualty out to sea and await rescue.

In some situations immediate extrication may not be possible. The reasons include:

- The pre-determined extrication point is too far away.
- Sea conditions are too rough to allow a safe extrication.
- Rescuer fatigue and thus unable to extricate safely.
- Lack of personnel to assist with extrication.

In this situation, as long as search and rescue services, or safety boat, have been contacted and they are en-route it will be safer to move out to sea away from the physical dangers of cliffs, submerged objects etc. It is obviously important that the group are safe with another guide or responsible person before being left.

When returning close to shore it is best to remove PFD using 'tough cuts' whilst in the water at standing depth, to allow neutral spinal alignment during extraction. If this is not possible and warmth to the casualty is a priority then the head should be controlled carefully as the buoyancy aid causes the head to be higher than normal from the ground when lying on their back.

Carry Casualty clear of water on BACK with 5-person carry as detailed within the explanation 'spinal lift and carry' in this manual.

Canadian Head Splint and Roll

The Canadian head splint and roll may be used as an alternative method for spinal immobilisation. It can be used in deep water, but is also very applicable in shallow water where a vice grip turn would be difficult to perform. It is also a useful option when only one rescuer is in the water and must quickly tow the individual to the extraction point, to avoid further danger.



The rescuer approaches the casualty from the side, grasps the upper arms midway between the shoulder and the elbow then brings the arms into an overhead or 'superman' position.

The casualty's arms are gently squeezed against the casualties head thus immobilising the cervical spine.

Whilst maintaining the pressure on the casualties arms the casualty is rotated onto their back (if face down in the water). This is performed as follows:

- Rescuers hand closest to themselves is pushed under the water whilst maintaining head splint grip.
- Simultaneously the other arm is pulled across the surface of the water rotating the casualty.

- The casualty will now be face up on the surface of the water, with their head in the crook of the rescuers arm and with pressure maintained the cervical spine will remain immobilised.
- The casualty's body should now also be in line with the head. If not, a gentle swimming motion in a head first direction will bring the rest of the body into alignment.



Perform the checks as per the vice grip roll. Ensure that help is on the way and that the remaining party are safe, as well as continuing the rescue according to the prevailing conditions. This may be either a two man tow or remaining in the current position until further help arrives.



If remaining in position until further help arrives, the prolonged one person Canadian Head Splint may be used. This is by clamping the patient's arms to the shoulder of the rescuer. The other arm of the rescuer supports under the patients hips, as in the picture above. This provides more control of the casualty than purely holding the arms and offers a sustainable position for the rescuer to maintain.

The Spinal Lift and Carry

When performing the Spinal Lift and Carry the Guide with their hands on the head is always in charge. All the commands for movement will be given as “READY, BRACE” followed by the movement you will be performing i.e. walk, turn, lower and stop.

- Three more individuals are required for an effective lift and carry. The Guides should select appropriate help and give them clear and concise instructions.
- The additional help should support the casualty under the legs and torso as shown; those responsible for supporting the torso may find it easier to grip the buoyancy aid.



- The team is now ready to lift and carry the casualty to shore. Clear communication is essential.
- The Guide holding the head should ensure everyone has a firm grip then give the command.
- “READY, BRACE, LIFT”.
- The casualty’s spine and neck must remain aligned and in a neutral position. (MILS).
- Exit will be in the direction the casualty presents in the water i.e. feet or head.

Note: Whilst ensuring they still have a strong holding position the Guide holding the head should maintain a distance from the casualty’s head to prevent a wave or slip knocking them into the casualty, but at the same time have bent elbows to absorb any movement and staying close enough to ensure the cervical spine remains in line with the body.



- The casualty should be carried clear of wet sand and uneven surfaces before being placed on the ground parallel to and facing the water where possible.
- The Guide in charge should instruct the team to lower and roll the casualty at the same time in one smooth movement, placing the casualty onto their side.



- Once the casualty is on the ground the Guide should instruct all Team members to support the casualty. This can be done by placing their legs against the casualty, pinning the casualty’s arms and legs to the body with their hands. (The upper arm can be moved later, the priority is to re-assess the casualty).
- Once the Casualty is safe and secured the casualties helmet can be removed to allow better c-spine control.



- Once the casualty is secure, a team member will assess the casualty's breathing - Look, Listen and Feel.
- After the breathing has been checked the casualty may or may not need to be moved, however the team must be in a position where the casualty can be moved if necessary.
- If the casualty is stable and is to remain on their side until further assistance arrives packing in the form of a rescue tube or tightly packed clothes can be placed under the casualties head. This will also prevent rescuer fatigue.
- Sand is not an appropriate support.

If the casualty is...

Conscious/Breathing	The casualty is placed on their back and given appropriate aftercare. (It may be appropriate to keep them on their side if a spinal board arrival is imminent to prevent multiple movements, or if the casualty is happier on their side e.g. glaring sunlight, sand and water in eyes etc.).
Unconscious/Breathing	The casualty is maintained on their side facing down the slope to assist in natural drainage.
Unconscious/Non-breathing	The casualty will need to be placed on their back and CPR performed using a jaw thrust and pocket mask to open the airway.

Resuscitation

A casualty needs to be lowered onto their back for resuscitation to commence.

- A log roll should be performed to lower the casualty.
- The Guide at the head ensures the team are ready then gives the command:
- "READY, BRACE, LOWER".



- The casualty's position has changed, they must be re-assessed.
- The airway can be opened with chin lift to assess for breathing (look, listen, feel) whilst MILS continues.
- If the casualty is **not breathing normally** the Guide in charge of the head will apply a "Jaw Thrust".
- Jaw Thrust – thumb placed on the cheek bone, the index finger placed behind the angle of the jaw (just below the ear) and lifted towards the thumb whilst still providing MILS.
- The other Guide will administer rescue breaths using a pocket mask.
- The pocket mask is placed over the casualty's nose and mouth (the mouth being opened by the lower edge of the mask). Enough pressure is now applied to ensure a seal around the mask whilst being careful not to compress the airway.
- CPR can now be performed by the Guide as per normal CPR protocol.

Note: the front of the buoyancy aid should be cut off to perform effective CPR.



- Other members of the group should be managed effectively and utilised where appropriate.
- Occasionally ventilations are not effective due to the MILS, despite jaw thrust. The priority is to establish an effective airway, even at the expense of MILS and possible cervical spine injury.
- The Guide can prepare to provide a controlled movement to lift the chin and tilt the head with standard hand positions.
- The Guides should work together and gradually open the Airway using the commands "ready, brace, nudge".
- At this point a small amount of tilt is performed and rescue breaths re-attempted with chin lift and jaw thrust in the new position.
- This procedure can be repeated until rescue breaths occur.
- If the Patient should vomit they should be log rolled immediately so that the fluid will drain out of the airway.
- Extra support can be given by placing an arm along the sternum whilst rolling as per normal "action for vomit".
- The casualty's condition has now changed therefore re-assess (ABC).

If there is difficulty creating a seal with a pocket mask an alternative method is as below;

- The Guide can slide their hands up to hold the mask onto the casualty's face with thumbs down the length of the mask, the bottom of the mask forcing the mouth open. The index and middle fingers behind the angle of the jaw can now pull "the jaw to the mask".
- Pulling up the jaw creates the seal.
- At the same time MILS can still be provided.
- The second Guide can provide rescue breaths and chest compressions.

IMPORTANT NOTE: Any person suffering from a suspected spinal injury should be transferred by ambulance to hospital for expert assessment.

Appendix A: Hazchem

The Guide should be aware of containers that may be washed up and the need to approach such containers with care.

Chemical containers should have an identification label; it will be helpful to pass onto the emergency services as much information from this label as possible. The label is designed to give the following information:

- A** the Hazchem code number indicating the method of dealing with the spillage
- B** the name of the substance and its United Nations code number
- C** the hazard diamond appropriate to the substance
- D** the 24-hour emergency telephone number of the manufacturer
- E** the symbol or housemark of the manufacturer

The Hazchem code is a combination of numbers (1234) and letters (PRSTWXYZ) and tells you what action to take. The numbers inform the Fire and Rescue Service of the firefighting agent appropriate to the substance. The letters indicate the level of breathing apparatus required and whether the substance should be allowed into drains and watercourses. The letter STYZ printed in reverse indicates that breathing apparatus is not required except in fire situations.

In some cases the letter E appears. This means that only essential personnel should be allowed near the container.

It is vital to report any containers found in the Coasteering environment at the earliest possible opportunity. If operating in an area frequented by other operators you should pass on the information so they can re schedule or alter any planned Coasteers until the hazard is removed.



Flammable substances



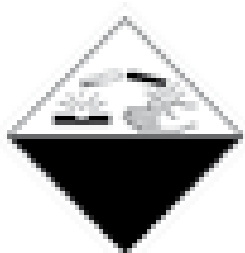
Poisonous substances



Oxidising Agents



Radioactive substances



Corrosive substances



Compressed gas

Appendix B: Stranded Marine Animals

Stranded animals along our coasts are all too common. It can be extremely distressing to both the Client and the Guide if a marine mammal gets into difficulty. Knowing a few simple procedures may save time and the life of these often endangered animals.

Seals

Seals regularly come out of the sea to rest. Pups are often left alone on the shore by adults feeding out at sea. Adults and pups can be safely watched from a distance but don't approach too close as the parents will be scared off and may abandon the pups. If you think that a seal is sick, injured or really is abandoned:

- telephone for help
- alter your Coasteer and keep well away until help arrives
- do not get close to injured seals or pups – they can bite

Dolphins and other Sea Mammals

Dolphins and other Sea Mammals breathe air and, when stranded on the shore, need to be kept cool with water.

If a stranded Sea Mammal is found, contact the Coastguard immediately. While help is on its way you can make a significant difference to its chances of survival:

- calmly approach the animal but be careful – mammals can make sudden movements

- if you can find assistance, roll the animal gently onto its front and keep the skin wet with seawater
- do not pull on its fins or flukes and be very careful not to get water down the blow hole
- try to keep crowds back to reduce stress
- do not attempt to drag the animal

Send for help

As soon as possible send for help. Make sure that the caller can give an accurate location and description of the animal. Do not put yourself at risk.

The RSPCA emergency number for stranded animals can be called 24 hours a day on: **0300 1234 999**

Appendix C: Protection From The Environment

Sun protection

Exposure to ultraviolet (UV) rays in natural sunlight is the main cause of:

- sunburn
- general skin damage
- premature ageing
- skin cancer

The very nature of Coasteering means that you are exposing parts of your body to the sun and the associated health risks. Two thirds of total sunlight is received in the 2 hours either side of midday (11am - 3pm British Summertime)

Simple hints to remember

- Apply sunscreen at least 15 minutes before going out into the sun, especially on the face, neck and other areas of the skin that cannot be covered with clothing.
- Reapply the sunscreen regularly, particularly after swimming; remember that UV rays penetrate at least 20cm into the water; water also reflects UV rays back onto the skin increasing the intensity of the sunlight.
- Seek shade whenever possible, particularly between 11am and 3pm in summertime.
- Use sunscreen in association with shade, not instead of it.

Skin Hazards

Skin cancer incidence is increasing in the UK. Guides are highly exposed and melanoma is the deadliest of all skin cancers. The main threat is from UV light, both UV-A and UV-B. All tanning harms the skin at cellular level. DNA damage is believed to cause cancer.

Skin cancer symptoms

The following are some types of skin cancer that should be evaluated by a doctor:

- an existing mole that enlarges irregularly or takes on a notched border
- red, blue or white areas in a mole
- itching or bleeding in a mole
- the appearance of a new mole in an adult
- a scaly or crusty raised area
- raised hard red bumps with a translucent quality in their surface

Sunscreens alone avoid sunburn and reduce the damage caused by sun exposure. SPF15 means you can stay in the sun 15 times longer than without it. Damage is less with a sunscreen but does still occur.

80% of UV rays penetrate clouds.

Eye Hazards

Eyesight may be seriously damaged by sun exposure:

- **Cataracts** – clouding of eye lens; later effect may lead to blindness.
- **Macular degeneration** – loss of central vision; as above.
- **Pterygium** – years of exposure to sun, wind and dust; may need surgery.
- **Photokeratiti** – damage to the cornea from intense UV over-exposure; it can be very painful; recovery can take several days, needs eye bandages.

Appendix D: Stress

During an incident

Inexperienced Guides will often worry that they may not be able to cope in a real emergency.

The body will automatically respond to a stressful situation by releasing the hormones adrenaline, noradrenaline and cortisol, which prepare you for 'flight or fight' by:

- increasing the heart rate
- increasing respiration
- increasing blood circulation to the muscles
- increasing the blood sugar level for energy
- widening of the pupils (to let in more light)
- increasing mental awareness
- increasing sweating to reduce body temperature

This is why 'fools rush in' where the more experienced Guide will take slow deep breaths to calm down and take time to assess the situation. With the normal rush comes the sensation of time standing still or the perception of events happening in slow motion that may be recalled later. There is also this effect when you perceive an incident but it is not one, or realise that the people were playing. The hormones are released, you are ready to respond but have nothing to do but calm yourself down by taking a couple of slow deep breaths.

After the incident

Following aftercare of the patient there should be aftercare of the Guide/s but this does not always happen. After an incident, depending on the type and outcome, the Guide may experience:

- **Enjoyment** – feeling good about a successful rescue.
- **Satisfaction** – in a job done well.
- **Doubts** – about the action taken; could you have done more?
- **Confusion** – about the events; it happened so quickly.
- **Fear** – of having taken the wrong action and being blamed.
- **Shame/guilt** – for not reacting quickly or taking the wrong action.
- **Helplessness** – for not responding or not being able to help.
- **Sadness** – for unsuccessful outcomes, death, serious injury.
- **Anger/frustration** – at the action of others, colleagues, bystanders and/or emergency services and for what happened: 'it could have been prevented.'

As soon as possible after an incident there should be a team debrief to allow feelings to be released and help the Guides get over the event. Individual counselling may need to follow.

Delayed reaction

It is common for reactions to an incident to be delayed and signs of stress to be felt or witnessed once everything has returned to normal.

Symptoms and signs to look for:

- tension and irritability
- muscle tension giving rise to backache, neckache, headaches
- withdrawal into isolation
- tearfulness
- flashbacks of the incident
- nightmares and restless nights
- excessive sweating
- hands shaking
- upset stomach, nausea, diarrhoea
- increase in alcohol and drug intake
- loss of memory and/or concentration

Coping with stress

It is important for feelings to be released. Exercise and/or relaxation can relieve stress. Taking part in a sport you enjoy will take your mind off it and help you relax, undergoing meditation and/or yoga sessions will help with relaxation.

Talking to a friend, colleague and supervisor, and sharing the experience will help. Writing down the experience and feeling, and listing all the positive actions will help create talking points and give a clearer picture of the event.

Post traumatic stress disorder (PTSD)

If the following symptoms are experienced, the Guide may be experiencing PTSD:

- reliving the incident
- avoiding situations and people involved with the incident
- being hyperactive
- symptoms that occur after 30 days and last for a minimum of a month

It is important to see a doctor and/or a counsellor for help. Support is available from SLSGB.

www.sls.gb.org.uk

Appendix E: Disposal Of Sharps

It is possible for Guides to come across discarded hypodermic needles and syringes. Remember that they may have been used for recognised medical conditions or used otherwise.

A sharp may be defined as any of the following:

- hypodermic needles and syringes
- used drug ampoules and other glass products
- disposable razors or other blades
- any item that can cause a wound

Disposal

- Protective gloves should be worn to minimise the risk of blood-borne infections.
- If in an area where sharps are a problem a sharps container should be considered, sharps should be placed into an approved sharps container; immediately, take the container to the sharp.
- Never probe or allow others to probe inside a sharps container to find out how full it is; sharps containers must not be used as a general rubbish bin.
- Containers should be changed when $\frac{3}{4}$ full; do not overfill. Arrangements need to be made with the local health authority for their safe disposal and incineration. Do not place out for normal collection of waste.

Accidental Needle Injury

All needles should be considered contaminated unless they have been removed from a sterile packet and have not been contaminated by contact with any person

In the event of a “needle stick” injury occurring, the following should be adopted:

- encourage the wound to bleed
- wash under running water
- liberally apply iodine based solution if available (assuming no allergy to iodine)
- dry skin thoroughly and cover with appropriate dressing
- inform your manager that a “needle stick” injury has occurred, including the location of incident, contact details of the casualty and approximate time
- you must complete an incident form. A copy should be kept for reference

If the needle is assumed to be contaminated the nearest Hospital Accident and Emergency department should be attended and staff supplied with details of the incident. (A copy of the incident form can be taken).

Appendix F: Group Management



Effective group management is essential in any outdoor environment. This is even more so when the Guides may be involved in a rescue.

1. HELP position

The Heat Escape Lessening Position (HELP) is an effective technique to adopt if awaiting rescue or during prolonged periods of immersion. The group is not however easily kept together in this position.



2. Large groups can be kept together by linking arms. This position keeps the group together and raises moral as the group are facing each other.



3. Rescue Tubes can be used to offer support; several can be clipped together in a line or in a triangle. Rescue Tubes can very easily support two persons.

Appendix G: First Aid

CPR -Drowning adults

A casualty in cardiac arrest requires both ventilation and chest compressions. In most cases the heart has stopped pumping first and therefore not able to circulate blood around the body. This is the case in a myocardial infarction (heart attack). In this situation there is sufficient oxygen stored in the lungs and blood that circulation is the priority and hence chest compressions are commenced after a call to the emergency services is made.

Similar to the majority of cardiac arrests in children, casualties of a drowning incident have suffered from asphyxia (reduced passage of air into the lungs) and become hypoxic (reduced level of oxygen in the blood and body tissues) before the heart stops.

In the situation of cardiac arrest post drowning the following changes should be made:

- Give five initial rescue breaths before the initial chest compressions.
- If you are on your own and you find that the casualty is "not breathing normally" perform 1 minute of CPR, (i.e. 5 rescue breaths then approximately three cycles of chest compressions and rescue breaths in the ratio of 30:2), before leaving the casualty to call the emergency services. (If assistance is present they can call, whilst you continue resuscitation).
- Supplemental oxygen should be used if;
 - o it is available
 - o the rescuer is trained in its use
 - o it can be used without interrupting CPR (i.e. attached to a resuscitation face mask)
- If rescue breaths are attempted in deep water a "mouth to nose" ventilation technique is advised.
- If rescue breaths in a rescue boat are attempted it is preferable to use a resuscitation face mask.
- Due to the amount of water swallowed during the drowning process there is a high risk of vomiting post rescue and resuscitation.

Cold Water Immersion

Cold water immersion

Immersion into cold water causes four characteristic phases known as cold shock:

1. Gasp reflex – an initial sharp uncontrolled intake of breath occurs. If the casualty's face is under water they will aspirate water and may drown.
2. Rapid breathing follows which removes carbon dioxide from the body causing the casualty to blackout. There is also an increase in heart rate and blood pressure. These dramatic changes may lead to cardiac arrest.
3. Muscle control is impaired by the cold water. Shivering will prevent efficient use of muscles to maintain position in the water and potential swim failure.

4. Water is more efficient than air at removing heat from the body resulting in hypothermia and dehydration.

If the face comes into contact with cold water it may initiate a reflex which causes a slowing of the heart rate, a drop in blood pressure and breath holding. This is known as the "dive reflex".

If the two opposing responses of the dive reflex and cold shock occur together it is known as "Autonomic conflict" which may result in cardiac arrest.

Successful resuscitation has occurred following prolonged submersion in cold water, however if the casualty has had their face submerged for more than 90 minutes resuscitation is likely to be unsuccessful. In this situation attempts at resuscitation should be avoided other than in exceptional circumstances.

Post immersion collapse (Circum-rescue collapse)

Prolonged immersion in water causes dehydration with the casualty's blood pressure being supported by the pressure of the water around them. If removed from the water vertically they will be subjected to a sudden drop in their blood pressure as the supporting pressure from the water is removed – this can result in cardiac arrest.

The treatment for extrication following prolonged immersion is to bring the casualty out of the water as horizontal as possible.

Bites and Stings

All bites and stings have a few things in common:

- A history of being in contact with an animal.
- Pain, itching, rash, redness, swelling and puncture marks at the site of contact.
- Possibility that the "sting" is still present e.g. jellyfish cells, bee sting etc.

In all cases:

- Calm and reassure the casualty, sit them down.
- Removal of "sting" if present.
- Be aware, Anaphylaxis is a possibility

Jellyfish - The majority of jellyfish in the UK do not cause painful reactions when they sting. Some stings can cause a severe irritation and others, such as the Portuguese Man of War can lead to a painful local reaction leaving painful wounds on the skin

Marine puncture wounds – The commonest in the UK is caused by the Weaver fish, a small 10-15cm fish which lies buried in the sand at low tide.

Ticks - Often associated with woodland areas where animals such as deer graze. They have a head close to the skin with the mouth parts imbedded in the skin and an abdomen that enlarges as it gorges on the casualty's blood.

Additional management	
Jellyfish	✓ Brush off any remaining tentacles. ✓ Pour copious amounts of cold seawater over the injury to incapacitate and wash away the stinging cells (nematocytes) that have not yet released their venom. (Vinegar can also be used) ✓ A cold compress may help with the pain. Avoid : ✗ Alcohol or fresh water will aggravate the injury and should be avoided. ✗ Rubbing sand on the affected area.
Marine "puncture" wounds	✓ Remove any obvious large fish spines ✓ Place the injured part in clean water as hot as the patient can bear for 30 to 60 minutes. (This denatures the protein in the sting) ✓ Top up the water as it cools, being careful not to scald the patient. ✓ Send the patient to hospital if there are residual spines in the skin. ✓ Standard care of a puncture wound
Bees, Wasps, other insects	✓ Remove any residual sting by scrapping, taking care not to squeeze the sting sac. ✓ Wash the area with soap and water ✓ A cold compress may relieve the pain
Ticks	✓ Remove tick by "twisting" the head and pulling out mouth parts. ✓ Take care not to squeeze the abdomen ✓ Inform the casualty they should see their general practitioner if they develop any symptoms of lethargy, fever, cold or flu in the weeks following a tick bite.
Snakes	CASUALTY MAY BE VERY DISTRESSED ✓ Minimise movement ✓ Immobilise the limb and treat as a fracture ✓ Refer the casualty to medical services urgently Avoid : ✗ Tourniquet use, attempting to catch the snake or sucking the wound.

Resuscitation face mask

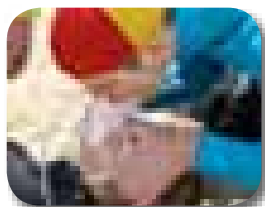
A resuscitation face mask creates a physical barrier between rescuer and casualty. The filter and one way valve will prevent transmission of potential infections and contact with poisons.

- Oxygen can be attached to the oxygen port on the mask, or tubing placed under the mask. Chest compressions are ideally performed "over the head" or by another rescuer.

The advantage of a pocket mask is not only in the physical barrier it creates but also in that it allows ventilation through mouth and nose.

Use

- Place the top of the mask on the bridge of the nose, such that the lower rim lies in the groove between the bottom lip and chin – keeping the mouth open. (Maintain head tilt chin lift).
- Placing your thumbs along the edge of the mask use the remaining fingers to produce a "jaw thrust" lifting the jaw to the mask.
- Ventilate through the one-way valve by blowing gently, until you see the chest rise, the casualty will exhale without assistance.
- If ventilation is effective you will see the chest rise. If not effective adjust airway position/technique accordingly.



Tips for creating an adequate seal

It is an instinctive reaction to compensate for a leak by blowing harder, however this only increases pressure and pushes air into the stomach. Conversely a significant leak will result in inadequate rescue breaths.

- **Pull the "Jaw to the mask"**. Applying more pressure to the mask will only compress the airway and reduce airflow.
- **Keep false teeth in – teeth give the face "form"**. If they are loose and obstructing the airway remove them.
- Beards can cause problems with the seal around the mask – applying KY jelly to the edge of the mask may help.

Appendix H: Reference Sources

SLSGB Beach Lifeguard Manual

Surf Lifesaving Great Britain

Base Level Skills and Competences for Coasteering Guides

National Coasteering Charter

Best Practice Safety Guidance for Coasteering Providers

National Coasteering Charter

SLSGB Qualifications and Awards Guide

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(ISBN: 9781905104031)

RYA Weather Handbook

Northern Hemisphere (ISBN: 9781905104178)

www.sls.gb.org.uk

www.ilsf.org

www.resus.org.uk

www.nationalwatersafety.co.uk

STATION

This image shows a full page of blank, lined paper. It features approximately 20 horizontal blue lines spaced evenly across the page, typical of standard notebook paper. The lines are thin and light blue, set against a plain white background. There is no handwriting or other markings on the page.



Surf Life Saving Great Britain

1st Floor, 19 Southernhay West, Exeter EX1 1PJ

Tel: 01392 218007

Fax: 01392 217808

E-mail: mail@slsgb.org.uk

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