



Access/Egress

Ensure that your access to the water is safe and that you can successfully regain contact with your boat/beach/shore. Always ensure, when diving from the land, that it is possible to climb out at the planned exit point at varying states of the tide.

Accidents/Incidents

Any member involved in a diving accident or incident should notify BSAC HQ. An incident report form will then be sent, which should be completed and returned as soon as possible. Reports are treated as strictly confidential and are used to prepare an analysis of safety performance each year. If there is any possibility of a third party insurance claim arising out of the circumstances it is particularly important that a form is completed without delay.

Air Reserve

Always ensure you have an adequate reserve of air (at least 25% of cylinder(s) capacity is strongly recommended) at the termination of a dive. The amount of air deemed to be an adequate 'reserve' will obviously depend on a number of factors including the size and working pressure of your main cylinder together with the depth and type of the dive - a standard figure is not appropriate. The reserve should be sufficient for a normal ascent, plus any decompression stops, and to allow adequate amounts for surface swimming. Remember that rates of air consumption can vary enormously with the effects of cold, fitness, experience and depth and you should monitor your own and your buddy's air supply regularly.

Alternative Air Sources (AAS)

The BSAC strongly recommends that all divers carry an alternative air source (AAS) in the event that they may need to share air underwater.

Suitable AAS include an 'Octopus Rig' (a second 2nd stage fitted to the same 1st stage of the regulator, which includes the type fitted to a direct feed). In this case divers should be aware that a first stage failure on their regulator will affect both second stages and render them in-operative.

A more strongly recommended alternative, however, is a totally independent air supply such as a 'Pony cylinder' (a small 2-3 litre auxiliary cylinder attached to the main cylinder with its own regulator assembly) or separate regulators attached to each cylinder of a matched pair. If a manifold is fitted to the pair of cylinders, making them into a 'twin-set', it should allow the diver the ability to isolate each cylinder/regulator assembly should a failure occur. Auxiliary cylinders having a capacity of less than 3 litres and ABLJ/BC mouthpieces are not considered adequate AAS.

Altitude

Diving at altitude, or travelling to altitude (including flying), either before or after diving, involves the diver being exposed to a reduced atmospheric pressure. This can both affect the decompression procedures required and increase the diver's susceptibility to decompression illness. The BSAC 88 Decompression Tables, Levels 1-4, have been specifically designed to allow the various factors involved to be taken into account in a simple manner. They should be used for all dives at altitude and also for determining whether a particular dive/journey sequence involving an excursion to altitude is permissible. (See BSAC 88 Decompression Tables).

Ascent Rate

Maintaining a safe rate of ascent is vitally important in preventing possible decompression illness and the risk of gas embolism. The BSAC 88 Decompression Tables have been calculated on a maximum ascent rate of 15 metres per minute up to 6 metres depth and 6 metres per minute from 6 metres to the surface and this must be adhered to when using the tables. Some dive computers incorporate slower ascent rates of 10 metres per minute but all divers are recommended to follow the practice of ascending at 6 metres per minute from 6 metres to the surface.

Repeated multiple ascents should be avoided as they may result in decompression illness. Particular care should be taken when carrying out the various ascent training drills, for which specific advice is available. 'Saw tooth' dive profiles which involve repeatedly ascending and re-descending over an uneven bottom

should be avoided, but the practice of returning to the surface from maximum depth in stages is encouraged.

Assisted Ascents

The National Diving Committee strongly recommends the use of an alternative air source (see Alternative Air Source) as the prime method of assisted ascent, and that all divers should carry such equipment.

Authorised Branch Dives

An authorised dive by a BSAC Branch is one carried out with the prior knowledge and approval of the Branch Diving Officer. A properly qualified and appointed dive marshal shall be present and shall be in charge of all diving activities for the duration of the dive/expedition. All Branch dives should be carried out in accordance with current BSAC rules and recommendations for safe diving.

AV (Artificial Ventilation) and CC (Cardiac Compression)

When demonstrating or practising AV in the water, a proper seal (usually nose) should be made. A simulated seal is not sufficient to give the sense of realism required, and does not guarantee a successful acquisition of technique. The use of a manikin is strongly recommended when practising AV on land.

Cardiac Compressions (CC) should never be practised on a conscious breathing subject, a manikin should always be used.

The following rates for AV & CC are recommended:-

AV on land. The rate of ventilations should be judged by monitoring the rise and fall of the casualty's chest and the sound of the casualty's exhalations. When in water - 2 breaths/15 sec.

CC 100 compressions/1 min.

Combined AV and CC - 2 breaths/15 compressions.

Boats

Ensure your boats operate at slow speed in any area where divers are below. Those in the boat should keep close watch for divers surfacing unexpectedly.

When dropping divers into the water, or retrieving them, ensure the engine is in neutral, and that they are well clear of the propeller before you engage gear. All boats should be marked for easy identification and should be properly equipped before taking them

to sea, in accordance with BSAC guidelines.

Boats used on BSAC events must have appropriate Third Party insurance cover.

When using boats take note of the recommendations for boat users laid down in the Diver's Code of Conduct.

BSAC 88 Decompression Tables

The NDC considers the BSAC 88 Tables to be the safest sports diving tables available in the world and recommends their use. The BSAC 88 Tables, Levels 1-4, have been specifically designed for sports diving on air and incorporate new thinking on the avoidance of decompression illness.

The Tables promote safer diving practices, particularly by encouraging slow, controlled ascent procedures and allow divers for the first time to make allowance for atmospheric pressure changes due to weather or changes in altitude. Due to the wide variations in human physiology and the large number of factors that can affect your susceptibility to decompression illness, no table can guarantee to protect you against all risk.

Whenever diving the following advice should be taken into account:

1. The maximum recommended depth for recreational diving, when using air, is 50m. Specific depth restrictions, appropriate to skill level and experience, are applicable to some BSAC diving grades (see Depth). When carrying out two or more dives in one day, perform the deepest dive first.
2. It is recommended that no more than 3 dives be performed in any 24 hours. Any dive series involving consecutive days diving to 30m+ should be limited to three days, after which a 24 hour break should be taken.
3. Always be in control of your buoyancy, especially during the ascent, and observe the recommended ascent speeds. (15m/min to 6m and 1 min from 6m to the surface).
4. It is permissible to conduct slower descents and ascents, whilst remaining within the dive profile envelope, but multiple 'saw tooth' ascents and descents should be avoided.
5. Be aware that smoking, alcohol consumption, tiredness, age, increased body fat and any medical condition affecting the respiratory or circulatory systems may increase your risk of decompression illness. Susceptibility can also be increased with excessive physical exertion during or immediately after a dive.
6. When diving with Nitrox use the BSAC Nitrox Table to determine the safe limits for your planned dive. (See Depth and Nitrox).
7. When diving with Trimix, or other mixed gases, the dive should be planned using an established Mixed Gas decompression table. (See Depth and Mixed Gas)

Buddy Diving

It is important for safe diving that divers are formed into appropriate buddy pairs. Buddy diving means a pair of divers operating as a unit, each taking some responsibility for the safety of the other. On every dive one diver, usually the senior in grade or experience, should be elected as the dive leader. Divers with a minimum grade of

Club/Ocean Diver may dive together at the discretion of the Branch Diving Officer. Divers below the grade of Club/Ocean Diver (i.e. divers under training) must be led by a qualified instructor or an Assistant Diving Instructor.

When snorkelling, dive alternately so that the snorkeller underwater is covered by their buddy at the surface.

Buddy Lines

In conditions of poor visibility, you may wish to use a buddy line to retain contact with your buddy. A line two to three metres long is ideal, with a shackle or small karabiner spliced to each end. This allows it to be looped over wrists, if so desired, or it can be clipped to a suitable piece of equipment e.g. BCD, to leave both hands free.

Buoyancy Compensators (BCD)

Divers need to be able to adjust their buoyancy underwater to compensate for buoyancy losses due to pressure changes on descent, and then to jettison this buoyancy as they ascend. This may be provided by inflation of a drysuit or by means of some buoyancy compensating device. Total reliance on a drysuit is not sensible and a suitable buoyancy compensator should be worn on every open water dive.

There are three main types of buoyancy compensator currently on the market, the Adjustable Diving Vest (ADV), the Stabiliser Jacket (STAB) and the 'wings' style of BCD.

Most are made in various sizes and care should be taken to choose the correct size and amount of buoyancy offered. All buoyancy compensators must have a direct feed mechanism for routine buoyancy adjustment.

The diver's other requirements for a buoyancy system are to stay afloat at the surface or to give emergency buoyancy whilst rescuing or being rescued. An inflated drysuit is not a good solution in these surface situations and drysuited divers must wear a buoyancy compensator to maintain and control buoyancy safely.

Buoyancy Compensator Cylinders

Some Buoyancy Compensators can be fitted with a small air cylinder for emergency inflation. These cylinders need to be tested/inspected at the same interval as larger diving cylinders. (see Cylinders (Air) below) Never overcharge a cylinder and avoid storing one for any length of time fully charged. Ensure that the working pressure of the BC cylinder is compatible with the working pressure of the aqualung cylinder. Avoid completely emptying such cylinders since, if the valve is allowed to remain open, any water in the buoyancy jacket or moisture from the atmosphere, may be drawn into the cylinder.

It is strongly recommended that BC cylinders should not be filled with enriched air (Nitrox) mixtures.

Buoyant Ascents

These fall into two categories, buoyant ascents in an emergency, and controlled buoyant ascents in a non-urgent situation. In the former it is vital to remember the risk of embolism and positive breathing out is absolutely essential. In the latter case, the training programme teaches the correct techniques to ensure a safe ascent rate in a controlled manner. It is most important that an ascent rate of 6 metres per minute is achieved from 6 metres to the surface and this requires that the diver is always capable of being neutrally buoyant at 6 metres with a near empty cylinder.

Compressors

For safety reasons only properly trained and competent people should operate compressors. If you use a portable petrol or diesel engine take care not to have the air intake in a place where fumes may be ingested with the air, and never use the compressor in a site where it is an annoyance to other people. It is essential that air of a high standard of purity is delivered.

The production of compressed air for use in oxygen enriched mixtures requires specialised oil-free equipment and training. Only properly trained operators using appropriate equipment should undertake this. (See Nitrox)

Computers

Dive computers offer accurate and automatic recording of depth and time and continuously calculate the diver's decompression requirements according to the depth and duration of the dive. Computers are also available with advanced features such as the ability to calculate decompression requirements for a variety of Nitrox mixes and mixed gases, and also to monitor available air and air consumption rates. The use of a dive computer is no substitute for proper dive planning, including proper attention to air requirements and dive time.

It is recommended that divers choose a computer which is at least as conservative as the BSAC 88 Decompression Tables on a rectangular dive profile. Individual susceptibility to decompression illness varies

and can be affected by a number of factors, for which no computer or decompression table is able to allow. Divers should be aware of this and avoid pushing computers beyond their limits. The advice on safer diving attached to use of the BSAC 88 Tables applies equally to computer users and should be followed. (See BSAC 88 Decompression Tables)

Cylinders (Air)

Air cylinders to the obsolete specifications HOS, HOT (steel) and HOAL 1, 2, 3, and 4 (aluminium) are still legal for use by divers, although no longer manufactured. Test standards BS 5430 Part 1 & 3 have been withdrawn. The current test and inspection specifications (August 2002) approved by the Health and Safety Executive are BS EN 1968 (Steel) and BS EN 1802 (Aluminium). Diving cylinders must be tested according to the aforementioned standards. These standards call for diving cylinders to be visually inspected every TWO & a HALF years and subjected to a hydraulic test every FIVE years. Divers should ensure that test stations carry out their tests in accordance with BS EN 1968 and BS EN 1802 and should obtain a test certificate which states this. Test stations approved by the Inspectorate for Diving Equipment Servicing and Testing (IDEST) are recommended. The cylinder should be stamped by the test station after every inspection / test and a label attached to indicate when the next inspection is due.

Cylinders (Nitrox and Mixed Gas)

Cylinders for use with Nitrox and Mixed Gas should be dedicated to this use, marked with a suitable label that clearly identifies the gas mixture contained (oxygen percentage) and the Maximum Operating Depth (MOD).

Cylinders should be regularly (usually annually) cleaned to oxygen service standard. Oxygen service standard is essential where the oxygen content is 23% or greater and the cylinder is likely to be filled using pure oxygen and the partial pressure method. Nitrox cylinders should have a maximum working pressure of 250 bar. Cylinder contents should always be analysed at the time of filling and again immediately prior to the dive (See Nitrox and Compressors)

Decompression

All dives involve some decompression, which normally takes place during the ascent and subsequent period on the surface. It follows that it is as important to correctly perform these stages as it is to monitor the dive itself. Decompression computers can assist in this if they are correctly used and are programmed to an appropriate algorithm. This means for a simple rectangular profile they should give dive times as conservative as the BSAC 88 Decompression Tables.

It is important to realise that both tables and computers are unable to make allowance for factors such as age, fitness, exertion, obesity and injuries, which may all significantly affect susceptibility to decompression illness (DCI). Divers should therefore be aware of these factors and avoid diving beyond their limits. Take particular care when planning repeat dives. Where two or more dives are being made the same day it is good practice to carry out the deepest dive first. It is also good practice to achieve maximum depth as early in the dive as possible and to avoid re-descending once any ascent has commenced.

Decompression illness symptoms vary between those so sudden, that immediate air evacuation to a chamber is vital, to those which may not become apparent for some hours. Some of these less dramatic symptoms, such as tingling and numbness, may well be delayed but can be more serious and produce greater disability than the excruciating pain often associated with DCI in a joint. Tingling and numbness are included in this category.

Severe DCI symptoms, occurring at sea, require rapid transfer of the subject to a recompression chamber, laid flat on their back and if possible, the administration of 100% oxygen and fluids. Being bounced, repeatedly, in a small boat is almost certainly going to worsen the symptoms rather than help the situation. For assistance with decompression illness, advice in the UK can be obtained from the National Decompression Illness Helpline.

When at sea, contact should be made via the Coastguard on VHF Channel 16. When on shore, contact can be made via the following 24-hour telephone numbers:

If calling in England, Northern Ireland or Wales call 07831 151 523 to be connected to the BHA/RN Diver Helpline.

If calling in Scotland call 01224 681 818 to be connected with the Aberdeen Royal Infirmary.

For other emergency assistance, when ashore in the UK, use 999 or 112, as usual.

When diving outside of the UK, ensure that you know the local emergency contact procedures. (See BSAC 88 Decompression Tables/Oxygen)

Decompression Stops

The NDC considers the BSAC 88 Decompression Tables to be the safest sports diving tables available in the world and recommends their use. In areas of the world where other tables are being used, members should check the correct application of these tables and if in doubt use the BSAC 88 tables. Dives requiring decompression stops should be well planned beforehand and executed according to recommended techniques. Avoid deciding upon decompression stops once in the water.

An accurate means of measuring depth and time is essential, as is an appropriate means of controlling the

depth of the stops, such as a shot line. Any diver who has missed planned decompression stops could be suffering from decompression illness and should be returned to the shore as quickly as possible. No attempt should be made to carry out any form of re-entry decompression as this inevitably worsens the situation. The diver should be treated as a potential casualty, kept quiet and administered oxygen and oral fluids. Emergency advice should be sought and their recommended actions followed - see the section on Decompression for contact information.
(See BSAC 88 Decompression Tables/Decompression/Oxygen)

Delayed SMB

A Delayed SMB is no substitute for a fixed shot-line and wherever practical a shot line should be used for the ascent and descent phases of the dive. However there are situations where the use of a shot line or a conventional SMB may not be appropriate, and in these circumstances consider the use of a Delayed SMB. Ensure that you practice deployment and usage of the Delayed SMB in safe, simulated conditions before using one in earnest, and when deploying the Delayed SMB do not attach the free end of the line or reel to yourself, or to other personal equipment.

Depth

A depth of 50 metres is recommended as the limit for normal recreational air diving. Within this limit BSAC divers have additional restrictions upon the maximum depth to which they should dive, dependent upon their diving grade. The specific depth limitations for each grade are contained within the current Diver Training Programme and Qualification Record Logbook.

There is statistical evidence that decompression illness is more likely to occur on dives deeper than 50 metres, even though decompression tables may be strictly adhered to, and such occurrences are usually serious, with central nervous system involvement. When diving deeper than 35 metres, special care with planning is vital, and recommended deep diving practices should be adhered to. The NDC strongly recommends that dives in excess of the recommended maximum depth limits should not be undertaken by recreational divers.

When diving with oxygen enriched mixtures it is essential that the maximum operating depth for the mixture is adhered to. Failure to do so may have fatal consequences due to the onset of oxygen toxicity. For dives in excess of 50 metres mixed gas or Trimix should be used and the BSAC recommends a maximum depth of 70 metres. All divers using mixed gas should be suitably qualified in its use.

Distress at Sea

Distress at sea can range from an extreme form of decompression illness, where life is threatened, to divers being lost on the surface having been swept away by the tide. Procedures to deal with such a range of emergencies are as follows:-

Any dive boat at sea requiring Search or Rescue assistance for a missing or overdue diver should use a 'MAYDAY' call if life is in danger. Less serious, but nonetheless urgent requests (e.g. a boat drifting with no engine), may warrant a 'PAN PAN' (Urgency) call. For vessels with Digital Selective Calling (DCS), a DCS alert should be activated on Channel 70 followed by a voice call on Channel 16. For non-DCS equipped vessels the call should be made on Channel 16. If your boat does not carry VHF radio it is sometimes possible to attract the attention of passing vessels who may radio on your behalf.

Flares can be used to attract attention, either from the shore or from other vessels in the area. It is important that flares are not wasted, so only fire them if there is someone likely to see your signal. Several Maritime and Coastguard Agency reports, each year, indicate that some divers leave it too long before raising the alarm. Do not delay too long if you are convinced problems are arising which you cannot control.

For distress at sea, where decompression illness is involved, see Decompression.

Dive Discipline

It is a rule of the BSAC that the Dive Marshal has the authority of the Branch Diving Officer to suspend a member from diving if instructions are not obeyed.
(See Authorised Branch Dives)

Dive Leadership

See Authorised Branch Dives/Buddy Diving, also Dive Planning and Organisation.

Dive Planning and Organisation

When boat dives are taking place, make sure that a responsible person on shore has details of your dive plan and estimated time of return. The Maritime and Coastguard Agency (MCA) is always grateful for a phone/radio call to brief them of your intentions, and confirmation that you have returned to shore safely. Accurate records of diver training, dives and expeditions should be kept at all times.

Diving Flag

The International Code Flag 'A' should always be flown when divers are in the water. For small boats it

should be at least 1/2 metre square and should have the means to fully extend it in calm conditions. It should not be flown when travelling to or from a dive site.

Diver Propulsion Vehicles

A Diver Propulsion Vehicle (DPV) is a very effective and effortless way for the diver to cover a large underwater area. By riding, or being dragged along by the DPV, the diver is provided with greater mobility and range for the dive, as well as breathing a reduced amount of the appropriate breathing mixture due to the reduced effort required for motion. Such a reduction in gas consumption may therefore also allow the diver to spend a longer period of time underwater, subject to the personal decompression requirements.

The major risks related to DPVs are listed as follows:

Difficulty looking at, and therefore properly monitoring, pressure, depth and other gauges whilst holding on to the DPV. However the diver can pause from time to time to review these instruments.

Loss of equipment due to the speed of the DPV. The diver will need to ensure that all ancillary equipment such as torches etc. is securely strapped to the person, and, in addition, do not dangle from the body where they could fall into the propeller guard.

Barotrauma and other pressure related injuries could occur as a consequence of a rapid descent, and particularly on the ascent. Due to the potential speed that the diver may travel using a DPV, these vehicles should be very carefully used for the descent and ascent phases of the dive.

Diver separation from the buddy could occur, unless the buddy also has a DPV. It is important that both members of the buddy pair use DPVs, since if only one member of the pair has such a vehicle then it is quite possible that the pair may become separated due to their obvious different speeds of movement through the water.

Collision in poor visibility. Always a potential risk, but unlikely.

Diver Recall Systems

When divers need to be recalled to the surface there are several means available. If they are using SMB's a pre-arranged signal on the line is sufficient. Thunderflashes can be purchased, but ensure they are of large enough size and that they are weighted in order to sink before you need to use them. Endeavour to allow divers to experience a thunderflash going off as a training drill so that they will recognise the sound when they experience it in a real situation.

There is also a diver recall system available using a .38 'blank' cartridge. This allows several signals to be fired. Divers are cautioned against taking such devices abroad, particularly when flying.

Drugs

If you are taking prescribed medication of any kind, do not dive unless clearance has been given by an approved UK Sports Diving Medical Committee Referee.

Drysuits

There are two main types of drysuit in common use, the membrane type (which requires adequate undersuit thermal protection) and foam neoprene drysuits. Each type has different weighting requirements. The buoyancy a drysuit provides cannot be guaranteed to support a diver on the surface safely - the air in the suit is too easily vented when swimming or in rescue situations. For this reason, plus the common sense of having a 'redundant' method of obtaining controlled buoyancy, a buoyancy compensator (BCD) is worn.

Drysuit training can be undertaken by Branches during initial training or at any time in later training.

Sheltered water/pool training, is essential before progressing to open water. Do not wear excess weight when using a drysuit, wear just sufficient to be neutrally buoyant at 6 metres with a nearly empty cylinder.

Divers have experienced problems on ascents because they have used both buoyancy compensator and drysuit to compensate for buoyancy loss, and have not enough hands to operate all the controls plus coping with whatever else they might be carrying.

Drysuit divers should include their method of achieving neutral buoyancy as part of the buddy check and dive brief. They should also advise their buddy on whether their suit is capable of being used as the main source of buoyancy during a Controlled Buoyant Lift, or whether their BCD will have to be used.

The NDC recommends that drysuit divers adjust their buoyancy underwater by introducing air into their drysuits, rather than into their buoyancy compensators.

Explosives

It is extremely dangerous to attempt to recover or retain live explosive devices. Immersion in water could render them very unstable, especially if they are consequently dried out, so keep well clear of any such devices you find. If you consider that they are in a dangerous location, inform the Maritime and Coastguard Agency (MCA).

Never:

- (i) attempt to bring them to the surface and on no account abandon them in shallow water, or on the beach;
- (ii) undertake the use of underwater explosives for carrying out underwater work without a recognised course of training;
- (iii) dive near sites where underwater explosives are being used since the shock waves can be fatal.

Fitness to Dive

Diving uses as much energy as moderate to heavy work. Before resuming diving, after a lay off, you are advised to regain physical fitness, practice basic underwater skills in the pool or sheltered water training area and complete a series of 'work up' dives before diving to depth. Ensure all divers are both physically and psychologically fit for the dives they plan to undertake.

Flares

Orange smoke and red handheld/parachute flares should be carried by all dive boats in order to attract attention when in difficulties at sea. Similar flares, in waterproof containers, are available for divers to carry in the event of them becoming lost at sea. Flares should not be used for signalling purposes in a non-emergency situation. Gun type flare launches require a Firearms Certificate for use within the UK. Divers are cautioned against taking such devices abroad, particularly when flying.

Flying and Diving

Flying or travelling to altitude after diving can give rise to decompression illness. Flying or travelling to altitude before diving, may increase the risk of decompression illness on a subsequent dive. It is therefore recommended that divers use the BSAC 88 Decompression Tables (Levels 1-4) to determine whether the proposed dive/journey combination is acceptable.

(See BSAC 88 Decompression Tables/Altitude)

Hyperventilation

Hyperventilation, before a snorkel dive, should be avoided at all costs, as it has the effect of flushing out carbon dioxide from the respiratory system. Build up of carbon dioxide, rather than lack of oxygen, creates the desire to breathe and, by getting rid of carbon dioxide in this way, snorkellers are more likely to suffer a 'blackout' through hypoxia (shortage of oxygen).

Ice Diving

See No Clear Surface.

Incidents

See Accidents/Incidents.

Insurance

Membership of the BSAC automatically gives worldwide Public Liability insurance cover of up to £5,000,000 when the member is engaged in diving or diving related activities. This cover is available to all BSAC members regardless of where they are domiciled, and cover applies as soon as membership is confirmed/renewed. This is considered to be the earlier of when the Branch issues a temporary membership receipt to that member, or when the membership details are included on the BSAC's membership database at BSAC Headquarters.

Cover also includes any qualified diving guests of the insured, prior to becoming a full member, whilst participating in the activities of any Branch to which the policy applies, as well as any intended member undergoing preliminary training. Both of these extensions are naturally subject to certain time limits, and further details on the policy can be obtained from BSAC Headquarters.

Cover is not restricted to only BSAC organised events or when the member is diving with other BSAC members. The general rule is that if the member is also a member of another diving association and is participating in a dive organised by this other association, then that association's own public liability insurance policy should respond. If mixtures of individuals from various organisations are diving with an independent organiser then the BSAC policy will respond to that BSAC member.

Organised social events such as shows, barbecues, bonfire parties and other fund raising events are covered. However the policy does not cover personal or Branch diving equipment or boats, and it is a constitutional rule of the BSAC that all boats used for Branch diving, whether privately owned or not, must be insured for Third Party risks with a minimum indemnity limit as recommended by the BSAC, currently at £5,000,000. If water skiing is included in Branch activities, additional cover is also required.

It is important to note that potential incidents should be reported to the BSAC using the BSAC incident Reporting System, and further details on this system, and the insurance policy itself can be obtained by contacting Technical Support Services at BSAC Headquarters.

Legislation

With the exception of requirements relating to cylinders (see Cylinders) and the law which protects historic wreck sites, there are no laws or government regulations in the UK about the way in which the sport of diving must be conducted.

However, if you dive for money or reward, even using recreational techniques and equipment, you are considered to be a professional diver and are subject to the requirements of the Diving at Work Regulations - 1997. These regulations require a diving medical issued by a medical examiner approved by the Health and Safety Executive (HSE) and impose detailed safety requirements on all diving operations.

Amateur divers must be aware that any job of work carried out for anything other than essential expenses e.g. petrol or air costs, would be considered subject to the requirements of the Regulations. It does not matter whether the money or gifts are presented to the divers or their Branch, this would still be seen by the HSE as diving at work. Even jobs of work undertaken for true expenses are seen by professional divers as 'stealing their work' and will often be a source of aggravation.

The regulations recognise that different techniques are used by the different sectors of the diving industry, and there are five separate Approved Codes of Practice (ACoP) covering Offshore Diving, Inshore Diving, Scientific and Archaeological Diving, Recreational Diving and Media Diving.

Divers working professionally have to comply with the requirements of the relevant Code of Practice. Those teaching sport diving professionally must comply with the 'Recreational Diving' ACoP.

Appropriate BSAC qualifications have been approved by the HSE for activities covered by this Code.

Medical Examination

Divers should ensure they are fit and healthy to dive and diver training or diving must not be undertaken until the diver has completed an annual Medical self-declaration form on renewal of membership. If the diver has no underlying medical condition that would potentially prevent them from diving safely, they may sign the form and a copy should be retained in Branch records. If a member has an underlying medical condition or query, telephone contact should be made with a Medical Referee for further advice. (Forms and Medical Referee list available from BSAC HQ or can be downloaded from the BSAC Website) Branch Diving Officers should ask for proof of current self-declaration status when members transfer to them from another Branch. If any member has been the subject of a decompression accident they must not commence diving again until medical clearance has been obtained from a UK Sports Diving Medical Committee approved Referee. Some countries have local regulations that may require a medical examination so it is worth checking before travelling and diving abroad.

Potential new members who are undergoing the 'Experience Scuba' introductory course should be asked to sign a disclaimer, which states they have not suffered from diseases or conditions which would make aqualung diving hazardous.

Mixed Gases

The terminology 'mixed gas' can encompass many types of gases a diver could use. However it is generally accepted that the term 'mixed gas' usually means adding Helium to the breathing mix and Trimix (oxygen, helium and nitrogen) is the most commonly used mixture. The BSAC recommends that mixed gas diving should be to a maximum depth of 70 metres and that all participating divers should hold a suitable qualification from one of the recognized training agencies and register this qualification with the BSAC. All divers wishing to undertake a Trimix course should hold a minimum qualification of Dive Leader and Extended Range Diver. All divers should be aware that mixed gas diving, with its greater depths, increases the element of risk. It is important that divers are not only suitably trained and qualified but gain depth experience and dive fitness in a progressive way.

Neutral Buoyancy

Neutral buoyancy is achieved when the diver is able to remain in a static position in the water and rises or falls as a result of breathing in and out. Comfortable diving means the achievement of neutral buoyancy, if required, at any stage of the dive. Correct weighting is critical to gaining neutral buoyancy easily, the diver should carry just enough weight to hold a 6m decompression stop with a nearly empty cylinder.

The NDC strongly recommend that where a drysuit is being worn, the drysuit is used to maintain neutral buoyancy underwater.

Night Diving

Night diving, especially in tidal waters, requires very careful planning. Each diver should have a working torch otherwise the dive should be terminated. Each diver should carry a backup torch or some other means of identifying their position if their main torch fails. An efficient system of marking the point of exit must be employed. Care must be taken with diver to diver signals to ensure that the torch is not shone directly into the diver's eyes.

Nitrogen Narcosis

Nitrogen Narcosis decreases a person's ability to cope with emergencies, slows down reaction and realisation time and increases the risk of an accident. There is strong evidence to suggest that 40m should be regarded as the maximum depth for most sports divers, as below this depth narcosis problems can become debilitating.

Nitrox

The use of Nitrox (nitrogen/oxygen mixtures where the oxygen content is greater than that of air) as a breathing gas can provide a safety benefit in terms of a reduced risk of decompression illness, or enable longer dive times/shorter decompression stop requirements with no added risk. The use of Nitrox has certain

disadvantages which require training and suitable equipment to minimise the risk. Properly trained and qualified BSAC members are permitted to use Nitrox on Branch dives, with the approval of the Dive Marshal. The BSAC provides a range of courses and qualifications in Nitrox diving. The BSAC recommends a maximum partial pressure for oxygen exposure when diving of 1.4 bar. This figure will determine the Maximum Operating Depth for any Nitrox mixture. Failure to observe the Maximum Operating Depth for any gas mixture may have fatal consequences due to the onset of oxygen toxicity. (See Cylinders (Nitrox and Mixed Gas)).

No Clear Surface

(Cave Diving, Ice Diving, Diving inside Wrecks)

Members wishing to dive in caves should contact the appropriate cave diving organisations, as this is very specialised diving, in terms of technique and equipment, and is not covered in BSAC diver training. Diving under ice should only be undertaken with a surface party of at least two. This allows one to tender the divers, while the other is free, if required for any reason, including an emergency. One of the divers must be securely roped to the surface, if diving in pairs, and contact between them should be by means of a buddy line.

Wrecks should not be penetrated without proper training and equipment. (See Wreck Diving)

Odd Numbers

It is very strongly recommended that diving in 'odd numbers' be avoided, as the 'odd man out', to some extent, is without a buddy.

(See Buddy Diving).

Oxygen

The administration of 100% pure oxygen following a decompression accident is recognised as an effective FIRST AID TREATMENT and may result in much less serious injuries. It SHOULD NEVER be regarded as a substitute for recompression, which is the only effective treatment in such cases. Members who have taken part in appropriate training courses and who have approved equipment, are recommended to use oxygen to treat divers showing symptoms of decompression illness, while they are waiting for recompression treatment. Where 100% oxygen is unavailable as a therapy gas, a Nitrox mixture may be used, although the benefit will be much less than that of pure oxygen. The recommendation for using Nitrox 80 as an open circuit decompression gas was not in opposition to using 100% oxygen but more to take advantage of the increased safety of using a weaker Nitrox mix as a decompression gas. This weaker mix of Nitrox 80 can be used safely at deeper depths, which allows for a faster and therefore shorter decompression schedule. If comparative schedules are run on any decompression software the enhancement of the off gassing phase will be clearly identified. (See also document entitled: Use of 100% oxygen and BSAC's recommendation for maximum ppO₂: <http://www.bsac.org/techserv/o2use0304.htm>) See also Rebreathers.

PFO (Patent Foramen Ovale)

During pregnancy the right and left sides of the foetal heart are connected. The hole between the right and left sides is known as the Foramen Ovale. Normally this should heal over after birth, separating the venous and arterial blood supplies passing through the heart. However in a proportion of the population (perhaps 25%) this hole does not close up completely, resulting in a Patent Foramen Ovale (PFO). The consequence for divers is that having a PFO can increase the risk of decompression illness. This occurs as a result of bubbles in the venous circulation (which would normally be filtered out in the lungs) shunting across to the arterial circulation, where they continue to expand in size.

Pots and Markers

Dive well away from fishermen's buoys, pots and pot markers, unless there are special circumstances.

Pregnancy

Medical evidence as to the safety of diving whilst pregnant is not conclusive. However there is evidence that deep diving may cause harm to the foetus. Certainly decompression illness and its subsequent treatment could be harmful to the foetus. Consequently if a woman is pregnant, or is trying to become pregnant, she is strongly advised not to dive.

The women who decide they wish to continue to dive whilst pregnant, or trying to become pregnant, should only undertake shallow dives, ideally less than 10m and no deeper than 20m, and remain well inside no-stop times. Even at shallow depths there remains a risk of pulmonary barotrauma which could require recompression treatment and cause harm to the foetus.

If a woman discovers she is pregnant and has been diving during the pregnancy, she is advised to discuss her case with a BSAC Medical Referee. The scientific evidence is not clear cut and ultrasound studies, together with other indications, may be useful to allay fears and help in the decision as to how the pregnancy should be managed.

Propeller Guards

A propeller guard, fitted to an outboard motor, gives a degree of protection from injuries to divers. Before fitting a propeller guard, take note of the manufacturer's recommendations and instructions, as it is possible to cause stress to the gear box and low end of the engine. Some loss of power may result from fitting a propeller guard.

Qualifying Dives

Open water qualifying dives should be made under the guidance of a Branch instructor or approved Dive Leader. Each dive should increase the diver's experience of differing underwater conditions and where appropriate follow the format laid out within the training scheme.

Rebreathers

BSAC only recognises CE approved semi-closed (SCR) and closed circuit (CCR) rebreathers for use within BSAC branches for recreational diving and training. At present the following rebreathers are approved:

Draeger Atlantis, Dolphin and Ray
Ambient Pressure Diving's Inspiration

The BSAC Rebreather Working Group (RWG) will continue to evaluate any new rebreathers that receive CE approval and are intended for general distribution to the recreational market. Consequently, new rebreathers could be added to this list - BSAC HQ will have information on any additions to this list.

Members wishing to use a rebreather for recreational dives in BSAC branches must hold a recognised rebreather user qualification and register this qualification on the BSAC Rebreather Database with Technical Support Services at BSAC HQ. Currently the BSAC only recognise the Entry Level rebreather courses provided by the Technical Training Agencies (i.e. nitrox breathing gas to 40m max.).

Current BSAC recommendations for Safe Diving are equally applicable to diving with a rebreather.

Rebreather divers should also follow the additional guidelines for diving rebreathers that BSAC have published called "Rebreather Safe Diving".

A subset of those rebreather diving guidelines is provided below;

The maximum depth for rebreather diving within BSAC is 40m

CCR rebreather diver should be a minimum of Sports Diver with advanced nitrox qualification

SCR rebreather diver should be a minimum of Sports Diver with nitrox qualification

Buddy of a rebreather diver (whether SCR or CCR) should be, as a minimum, an experienced Sports Diver with their DO's consent

The DO (or DM acting on behalf of DO) should ensure that the Sports Diver (or above) who will buddy a rebreather diver is;

- experienced under the current diving conditions (i.e. site and weather)
- capable of recognising the conditions of hyperoxia, hypoxia and hypercapnia
- capable of performing a rescue (CBL and surface support) on the rebreather diver in the case of an emergency

The Dive Marshal (or Deputy) should be an Advanced Diver with a nitrox qualification

The dive plan should suit both divers and represent the most conservative case of dive profile required by the two divers. The dive plan should be communicated to the Dive Marshal

The rebreather diver and the buddy must each carry adequate bailout for the dive to be undertaken.

For dives deeper than 20m the rebreather diver should consider the use of an independent bailout in addition to the 2L or 3L bailout cylinder provided as an integral part of the rebreather.

The rebreather diver and buddy should each carry a DSMB and at least one other surface location aid.

The buddy check should be modified to incorporate the layout of the rebreather & ensure the buddy can operate the rebreather mouthpiece in case of a rescue.

All diver training and teaching wearing a rebreather should be conducted in accordance with the guidelines published in 'Rebreathers in BSAC Training'.

The use of a rebreather in First Aid measures following a DCI incident within the diving party should be considered once the oxygen cylinder in a standard oxygen administration set has been depleted or no other source of oxygen is readily available.

Further guidance on the use of rebreathers in rescue management will be available within the revised Dive Leader Training of the new Diver Training Programme.

Since 1st January 2002 BSAC has enabled the use of planned decompression when diving a rebreather for up to a maximum planned decompression of not more than 10 minutes and stop depth(s) not deeper than 6m. In all cases, the planned decompression should not exceed that permitted by the unit manufacturer and/or the Training Agency certification held by the rebreather diver.

In addition BSAC recommend that;

The decompression should be planned and conducted using an appropriate decompression tool;
A rebreather diver planning a decompression dive should have a bailout plan & carry adequate independent bailout to carry out the bailout plan;
The decompression planned should be conducted in accordance with BSAC publication Safe Diving and the rebreather diver's Training Agency recommendations;
The decompression plan should represent the worst case decompression requirement of the buddy pair in order to ensure there will be no buddy separation during the decompression stop (in case that the rebreather diver needs to bailout).

A BSAC publication titled "Rebreathers in BSAC Training" outlines the recommendations for the use of rebreathers in branch diver training and for BSAC events such as Skill Development Courses and Instructor Training Events. All RWG publications are available from BSAC HQ or can be downloaded from the BSAC web site.

Re-Entry Decompression

If a diver misses planned decompression stops, no attempt should be made to enter the water again in order to complete them. In this situation the diver is increasing the risk of decompression illness.

Repeat Dives

The BSAC 88 Decompression Tables should be used for planning and performing repeat dives. Where two or more dives are being made the same day, it is good practice to carry out the deepest dive first. You should also take care if you are involved in several days of diving deeper than 30m. It is possible to accumulate excess nitrogen over this period, and apparently 'innocent' dives, carried out near the end of the period of diving, can cause decompression illness. It is therefore recommended that any dive series involving consecutive days diving to 30m+ is limited to three days, after which a 24 hour break should be taken. (See BSAC 88 Decompression Tables).

Ropes

Divers should take great care with the use of ropes underwater, especially using reels as distance lines from shot lines. Reels for SMB use should float independently, have a quick release system such as a bayonet fitting snap lock and divers should be taught how to use them. When divers do get into difficulties on ascent it is often the best course of action to ditch the reel so that both hands are free to deal with the situation. When using a reel and line as a bottom distance line, we recommend that a reel and line which sinks is used and that when deploying line, hold the reel and line away from the body and especially the legs. It should also be recovered from in front of you. Never let a bight of line develop in front of you; slow down and wind in.
Divers should always carry an adequate knife, especially when dealing with ropes.

Separated Divers

If divers become separated underwater, a brief attempt (approx. 30 seconds) to re-locate should be made, after which the divers should surface. If the dive is subsequently re-commenced appropriate decompression planning must first be carried out.

Sharing

See Assisted Ascents.

Signals

Divers should be completely familiar with the standard code of visual signals and should give them accurately and clearly. All signals should be acknowledged. The 'Come and get me' signal by a diver at the surface is to be used only for distress, and not as a 'Pick me up' signal.

Solo Diving

There are occasions, e.g. in nil visibility or when working underwater, when the 'buddy' system is ineffective. On these occasions a solo dive may be required, with the diver being securely roped and in constant rope communication with a surface 'tender', who should be a diver themselves. The rope must be securely fastened to a suitable object on the surface. Communicating signals must be fully understood and a fully kitted, roped, 'stand-by' diver must be available in the event of an emergency.

Stand-by Divers

On the majority of dives your stand-by diver is your buddy. A stand-by diver is usually only required when a solo dive, using a rope tender, is in operation.

Surface Marker Buoy (SMB)

SMBs should be used in significantly moving water, when operating well off shore and in areas with heavy surface traffic. There may be times, other than these stated, when their use might be deemed prudent by the

dive marshal. It is essential that correct training is given to new members in their use, as for any unfamiliar equipment. In some situations e.g. wreck sites with slack water, they are unnecessary and can actually be a hazard to the diver.

Tangle Nets/Gill Nets

Indiscriminate fishing, particularly on wreck sites, with difficult-to-see monofilament netting, is a real hazard around the British coast. Experiments have shown that the average diver's knife is very ineffective should the diver become entangled. A line cutter or a curved blade 'dinghy' knife, with a blunt end, are probably the most effective for this purpose and need to be worn on the arm. A knife with a sharp point could lead to a diver stabbing himself when in difficulties. Small shears or scissors are recommended as an effective tool for cutting netting. Once caught in netting, it is advisable to partially inflate your BCD, so you rise inside the net, putting it under tension and making it easier to cut. The positive buoyancy will also help to 'tear' you away. If your buddy is free of the netting they may be advised to cut you out, still enmeshed, and worry about completing the job on the surface.

Tides

The success of any sea dive depends on accurate, local, tidal predictions for the dive site you wish to visit. Admiralty charts give accurate large scale predictions and should be used in conjunction with the relevant local tide tables. Tidal Stream Atlases are also useful and are available for the UK and many other sea areas throughout the World.

Trimix

Trimix is a mixture of three gases, Oxygen, Helium and Nitrogen in various percentages. (See Mixed Gas).

VHF Radio

VHF radios are a valuable aid to safety at sea and, together with suitable waterproof housings, are frequently used in small boats.

Radios should be licensed and, under normal circumstances, should only be used by, or under the supervision of, someone who holds an appropriate Certificate of Competence.

It is an offence to use Marine VHF radio from the land, (unless it is a registered land station) so your shore party is not allowed to use one.

Weather

Acquiring an accurate weather forecast for your dive site can save a lot of unnecessary travelling expense and can mean the difference between a controlled successful dive and a risky experience.

BBC TV News Bulletins are always followed by a UK forecast with easy to understand symbols. Some daily newspapers carry a good forecast with weather map, and the Maritime and Coastguard Agency always has an up to date forecast. RAF stations have a meteorological station and are usually very helpful. The Shipping Forecast on Radio 4 is another very useful source, whilst the Meteorological Office (Met Office) provides a telephone message and fax back service: its helpline is 0845 300 0300.

Weightbelts/Integrated Weight Systems

Weightbelts or integrated weight systems, when used, should always be fitted with a reliable quick release and fitted so that they will always fall clear of other equipment when released. You should be practised in releasing your weights and should also make sure that your buddy is well briefed and fully familiar with your release mechanism. If the buckle is of the same type as on the cylinder harness, it is wise to wear it so that it operates in the opposite direction.

Wreck Diving

Wreck diving is one of the most popular forms of diving and requires extra safety precautions if divers venture inside the wreck. Many steel wrecks are in a dangerous state of decay, and loose overhead objects or steel plates are a real hazard. Never venture deep inside a wreck without ensuring your route to clear water is certain, and use a reel and line secured to the outside of the wreck to mark your return route. Avoid excessive finning inside a wreck as sediment stirred up is very slow to settle, due to lack of tidal flow. Always allow an adequate reserve of air at the end of your dive and never run down your air supply by attempting to remove an artefact. Never try to lift heavy objects from wrecks using your BCD and/or drysuit.

Underwater ordnance can be very unstable and should not be recovered. It is a criminal offence to be in possession of explosives without the relevant licenses.

See Diver's Code of Conduct