

Generic Shore Diving Risk Assessment

This document should be read by all divers taking part in shore dives organised by Totnes Sub-aqua Club, and will be made available to all club members via an annual distribution and on the club website.

It is the Dive Manager's responsibility to carry out a risk review prior to every dive, based on this generic risk assessment, plus consideration of prevailing conditions. If conditions change such as to be significantly different from those applying at the time the original assessment was undertaken, then the Dive Manager shall reassess the dive plan accordingly.

Hazards should be continuously monitored during any dive or dive related activity. The Dive Manager should be prepared to put any contingency plans into place at any point during the dive.

Standard Controls

Divers shall dive within the restrictions of their training and experience and all diving shall be carried out in accordance with BSAC Safe Diving Practices and TSAC Branch Rules.

It is the responsibility of each individual diver to undertake personal risk control measures as befits their level of training and experience and, if appropriate, the Dive Manager/Instructor shall brief the diver/trainee on the risks associated with the dive.

As part of the risk control measures the Dive Manager shall ensure that there is an oxygen kit and first aid kit available on every dive and that members are familiar with the use of the oxygen kit (a list of oxygen administrators is available from Diving Officer or from TSAC website).

Anyone managing a branch dive must obtain the Diving Officer's consent to the planned dive. On completion, the Diving Officer shall be advised of the safe return of all divers, or of any accidents or incidents, at the earliest opportunity.

A detailed log sheet/slate will be kept during diving operations.

All divers must have completed a Recreation Medical Declaration Form and, where appropriate, have a Recreational Medical Certificate issued by a UKDMC Medical Referee.



All divers shall carry an alternative (gas) source, i.e. Octopus, Air II, pony or twin-set.

Divers to use SMB/DSMB as appropriate, and as required by any locally applicable regulations for the dive site.

Divers should ensure that their equipment is properly maintained and functional.

Divers to carry appropriate surface detection aids and a knife/tool for cutting.

The Dive Manager shall include diver separation procedures in the dive briefing as appropriate.

All Oxygen kits contain an Incident Procedure Sheet which should be completed to accompany a diver requiring evacuation by the emergency services.

During coronavirus pandemic additional precautions will be required as detailed below:

- Dive Managers/divers should be familiar with specific BSAC Covid-19 guidance relating to diver rescue and the application of Cardiopulmonary Resuscitation (CPR) – copy of latest guidance to be appended to this risk assessment.
- Rescue equipment to be supplemented with protective equipment: face shields or other protective barriers; disposable gloves; antiseptic wipes; alcohol based hand sanitiser.
- Dive Manager should confirm PRIOR to divers assembling at dive site that individuals are fit and well and are not required to self-isolate.
- Social distancing should be maintained in accordance with prevailing government guidance. If it is necessary to provide assistance during kitting up, e.g. with a drysuit zip, both divers to wear appropriate face coverings.
- Divers should only handle their own kit. If handling another person's equipment use hand sanitiser before and after touching it.
- During buddy checks each diver should NOT breathe from or touch the mouthpiece of an AS intended for another diver in an out of gas situation but should confirm operation by purging.

Hazard:	Risk of:	Risk Evaluation:	Controls:	Immediate measures to deal with consequences if risk does occur:
Currents	Diver separation underwater	High	Dive Manager to use tide tables where appropriate and brief divers on tidal information. Ensure diver separation procedures are included in briefing and divers to consider use of a buddy line. Contact to be maintained throughout dive. If not diving with SMB, use DSMB for ascent.	Divers to abort dive and return to surface (subject to decompression requirements)
Currents	Diver(s) swept away from marked site.	High	Dive Manager to use tide tables where appropriate and brief divers on tidal information. Have contingency exit points available. All divers to carry surface detection aids such as DSMB, torch, strobe, EPIRB, flag, flares, whistle, etc, particularly DSMBs.	Divers to use SMB or DSMB for ascent. Divers to use surface detection aids to attract assistance.
Equipment failure	Serious injury to diver/death	High	Divers to perform a buddy check before entering the water. It is recommended that divers carry-out a bubble check once under the surface. Equipment to be well maintained and regularly serviced.	Divers to abort dive and return to surface. Assistance from buddy as required.
Nitrogen narcosis	Injury to diver	High	Divers should agree a dive plan with the Dive Manager before the dive. Divers should build-up depth experience progressively. Divers to carry-out progressive work-up dives if going beyond their recent diving experience. Experience to be gained in company of Instructor/diver of greater experience at that depth.	Assistance from Instructor/buddy.
Reduced underwater visibility	Diver separation underwater	High	Ensure diver separation procedures are included in briefing and divers to consider use of a buddy line. Divers to be prepared to abort dive if necessary. All divers to carry detection aids such as torch or strobe. If not diving with SMB, use DSMB for ascent.	Divers to abort dive and return to surface (subject to decompression requirements)

Hazard:	Risk of:	Risk Evaluation:	Controls:	Immediate measures to deal with consequences if risk does occur:
			NOTE: Divers should dive in buddy pairs if at all possible. Groups of three should consist of experienced divers who are self-reliant. If training, the normal student-to-instructor ratio of 2 students to 1 instructor should be reduced to 1 to 1 if possible, except in the case where the 'students' are experienced divers involved in supplementary training.	
Running out of gas	Serious injury to diver/death	High	Dive Manager to record "gas in" and "gas out" on dive slate. Divers to plan gas requirements for their dive and ensure they have adequate gas for that dive. Divers to perform a buddy check before entering the water, including gas levels. Divers to agree a gas reserve at which they will leave the bottom and monitor their buddy's gas level during the dive. All divers should carry an alternative source (AS), i.e. Octopus, Air II, pony or twin-set.	Diver to use own or buddy's AS.
Uncontrolled ascent	Serious injury to diver/death	High	Divers should ensure they are properly weighted and capable of making a safe and controlled ascent, and that inflation and dump systems are working correctly. Divers using drysuits to have been trained in their use. Dive Manager to ensure oxygen kit and administrator available. If training, Instructor to monitor student. Instructor/student ratios to be in accordance with BSAC recommendations.	Oxygen kit and trained O2 administrators on site. Diving monitored by shore cover able to provide/direct assistance.
Unfavourable weather	Lost diver/Injury to diver	High	Dive Manager to plan dive using latest weather forecast, and to have contingency dive site. Continuously monitor conditions prior to and during dive and abort dive if necessary.	Dive Manager to cancel diving or change to back-up site.

Hazard:	Risk of:	Risk Evaluation:	Controls:	Immediate measures to deal with consequences if risk does occur:
Cold water	Regulator freezing/freeflow – injury to diver	Medium	Divers to choose appropriate equipment for the environment. Equipment to be well maintained and regularly serviced. Divers should consider the use of environmentally sealed first stages if regularly diving in cold water. If possible keep cylinders out of cold until just before diving. Avoid breathing from regulators on surface prior to dive and do not take regulator out of mouth during dive. Avoid alternative source (AS) drills, except on specific training dives with appropriate back-up procedures in place.	Diver to abort dive if necessary. Use own or buddy's AS if catastrophic loss of gas.
Cold water and/or wind chill	Hypothermia	Medium	Divers to choose appropriate, well fitting exposure protection in good condition. Divers to be prepared to exit water early if cold. Divers to monitor buddies, and in particular trainees, for early signs of cold. Trainees to be briefed on appropriate divers' signals to indicate chill.	First Aid to be administered. Dive Manager/boathandler (or other divers) to contact emergency services, as required. Hospitalise, as required.
DCI (DCS and barotrauma)	Serious injury to diver/death	Medium	Divers should agree a dive plan with the Dive Manager before the dive. Divers should avoid aggressive dive profiles and ensure they have sufficient gas for the planned decompression schedule, including safety stops if "no decompression" diving. Divers should ensure they are properly weighted and capable of making a safe and controlled ascent, and that inflation and dump systems are working correctly. Divers to remain well hydrated and avoid excessive exercise after diving. If diving on computers, divers to have a contingency plan for	Oxygen kit and trained O2 administrators on site. Dive Manager (or other divers) to contact emergency services, as required. Incident Procedure Sheet to be completed for emergency services to accompany diver. Casualty to be referred

Hazard:	Risk of:	Risk Evaluation:	Controls:	Immediate measures to deal with consequences if risk does occur:
			computer failure e.g. watch and dive tables. Dive Manager to ensure oxygen kit and administrator available.	to recompression facility.
Deteriorating weather	Risk to boat and passengers	Medium	Dive Manager to plan dive using updated weather forecast, and to have contingency dive site. Continuously monitor conditions prior to and during dive and abort dive if necessary.	Dive Manager to cancel diving or change to back-up site.
Diver inattention due to task loading (e.g. photographers, scallopers, wreck divers)	Diver separation underwater, entanglement of isolated diver	Medium	Dive Manager to consider likely tasks when determining buddy pairs (e.g. in many cases it's best to avoid putting two photographers together). Ensure diver separation and recall procedures are included in briefing and divers to agree behaviour underwater, i.e. different roles to be played by buddies. Divers to be prepared to abort dive if necessary. All divers should carry cutting tool or knife, torch or strobe as appropriate. If not diving with SMB, use DSMB for ascent. NOTE: Divers should dive in buddy pairs if at all possible.	Divers to abort dive and return to surface (subject to decompression requirements)
Diver influenced by drugs or alcohol	Injury to diver	Medium	Dive Manager to stop anyone believed to be under the influence drugs or alcohol from diving. Diver to advise Dive Manager if concerned about dive fitness of buddy.	Dive Manager to stop affected person from diving.
Drowning	Serious injury/death of diver	Medium	All divers should carry an alternative source, i.e. Octopus, Air II, pony or twin-set.	First Aid to be administered. Dive Manager (or other divers) to contact emergency services, as required. Hospitalise.

Hazard:	Risk of:	Risk Evaluation:	Controls:	Immediate measures to deal with consequences if risk does occur:
Ear damage	Injury to diver	Medium	Trainees to receive specific instruction on ear clearing. Divers to avoid diving when suffering from a cold.	Assistance from Instructor/buddy.
Fishing line, nets, kelp, and other underwater obstructions	Panic, entrapment or entanglement, injury to diver, running out of air, serious injury to diver/death	Medium	Dive Manager to brief divers of any known underwater obstructions or if the site is known to be prone to collecting nets & fishing lines. Change sites or dive plan if necessary. Divers should aim to have their equipment streamlined and avoid dangling equipment as far as is possible. Divers must have diving tool/knife for cutting.	Assistance from buddy.
Heart attack	Death	Medium	Divers to complete medical declaration/referral to medical referee.	BLS to be instigated. Dive Manager (or other divers) to contact emergency services. Hospitalise.
Missed decompression stops	DCI - Serious injury to diver/death	Medium	Divers should agree a dive plan with the Dive Manager before the dive. Divers should ensure they have sufficient gas for the planned dive. Divers should ensure they are properly weighted and capable of making a safe and controlled ascent, and that inflation and dump systems are working correctly. Dive Manager to ensure oxygen kit and administrator available.	Oxygen kit and trained O2 administrators on site. Dive Manager (or other divers) to monitor diver(s) for signs of DCI.
New location	Unknown risks	Medium	Dive Manager to plan diving at site with knowledge from charts, dive guides and local knowledge (e.g. from local dive clubs/shops). Dives to new locations to be managed/overseen by an Advanced Diver. Diving Officer to approve all dive plans in advance.	Dive Manager to cancel diving or change to back-up site if new risks identified that cannot be addressed within dive plan.

Hazard:	Risk of:	Risk Evaluation:	Controls:	Immediate measures to deal with consequences if risk does occur:
Night	Lost diver on surface	Medium	Dive Manager to be aware of divers planned times and watch for divers arriving at the surface. Make sure a proper watch is kept at all times. All divers to carry surface detection aids such as torch, strobe, EPIRB, flares, etc. All divers to carry spare torch.	Divers to use surface detection aids to attract assistance, e.g. illuminate SMB with torch.
Debris at entry/exit site or otherwise unsuitable	Injury to diver	Low	Dive Manager to consider whether divers can enter/exit water safely. Dive Manager to check that entry and exit are possible at all states of the tide during the diving day. Divers should only enter water if easy to do in full kit and exit is possible.	Change sites or dive plan if necessary, or abort dive. Divers to change method of entry or abort dive.
Hot weather	Hyperthermia/sunburn	Low	Divers to take precautions against over-heating/sun. Divers to avoid dehydration.	First Aid to be administered. Dive Manager (or other divers) to contact emergency services, as required. Hospitalise, as required.
Injury from falling cylinders	Injury to diver/general public	Low	Divers to avoid leaving cylinders standing upright, particularly if unattended. Trainees taught to always lay heavy equipment down.	First Aid to be administered.
Mask squeeze	Injury to diver	Low	Trainees to receive specific instruction on mask equalisation. Only masks which enclose both eyes and nose in same airspace to be used.	Assistance from Instructor/buddy.
Boat traffic/other water users in dive site location, e.g. fishermen	Serious injury to diver/death	Low	Shore cover to monitor other surface traffic while divers are in water. No ascents to be carried out in open water without an SMB or DSMB unless in an emergency and unavoidable. Divers to look and listen for boat traffic during ascent. Dive	First Aid to be administered. Dive Manager (or other divers) to contact emergency services,

Hazard:	Risk of:	Risk Evaluation:	Controls:	Immediate measures to deal with consequences if risk does occur:
			Manager to have contingency dive site and to be prepared to cancel diving or change to back-up site if necessary.	as required. Hospitalise, as required.
Sharp objects	Injury to diver	Low	Divers to avoid touching jagged/rusty edges of metal on wrecks unless wearing gloves. Dive knives to be kept in sheath unless in use.	First Aid to be administered. Dive Manager (or other divers) to contact emergency services, as required. Hospitalise, as required.
Trips, slips and falls	Injury to diver/damage to equipment	Low	Brief trainee/inexperienced divers on how to put on and take off scuba equipment and to be aware of and look out for possible obstacles while walking or moving in diving equipment. Divers should exercise caution when carrying diving equipment. Divers not to put fins on feet until at or very near to water entry point - this must not involve divers being exposed to a risk of falling in without having fins on. In the case of cold weather, extreme caution should be exercised by all divers as there is a risk of icy walking surface.	Remove casualty from danger and administer first aid. Hospitalise, as required.
Coronavirus	Exposure to/transmission of virus leading to possible acute respiratory tract infection/hospitalisation/death.	Medium	Anyone displaying symptoms of virus (persistent cough, fever, shortness of breath, loss of taste, etc) or who has tested positive for virus or has come into contact with confirmed or probable case or has recently returned from abroad to self-isolate and/or seek medical assistance and should NOT attend club activities. Dive manager	

Hazard:	Risk of:	Risk Evaluation:	Controls:	Immediate measures to deal with consequences if risk does occur:
			<p>should confirm PRIOR to divers assembling at dive site that individuals are fit and well and are not required to self-isolate.</p> <p>Social distancing should be maintained in accordance with prevailing government guidance. Dive Managers to consider conducting a series of briefings to smaller groups if required. If it is necessary to provide assistance during kitting up, e.g. with a drysuit zip, both divers to wear appropriate face coverings, minimise time in close proximity to each other and, if practicable, position themselves to avoid one being downwind of the other.</p> <p>Divers should only handle their own kit. If handling another person's equipment use hand sanitiser before and after touching it. Where possible ensure that equipment is prepared in advance by diver prior to assistance being provided. Avoid contact with any part of the equipment that would be breathed from directly by anyone.</p> <p>During buddy checks each diver should NOT breathe from or touch the mouthpiece of an AS intended for another diver in an out of gas situation but should confirm operation by purging. Any planned practicing of rescue skills requires special precautions during the pandemic and should only be undertaken following discussion with the Diving or Training Officer. It is a requirement that regulators are kept in the mouth and a dive mask be worn at all times by both</p>	

Hazard:	Risk of:	Risk Evaluation:	Controls:	Immediate measures to deal with consequences if risk does occur:
			casualty and rescuers when in close proximity to each other, even when demonstrating rescue breaths (consider use of small cylinders when demonstrating recovery of a casualty on to the beach).	

Rescue and CPR Guidance

These notes are intended to provide a framework for a return to diving following easing of government restrictions as a result of the COVID-19 pandemic. This guidance is based on current knowledge and understanding of the risks associated with the outbreak and the current scientific evidence informing decisions by government and other relevant authorities. It is acknowledged that the evidence base and knowledge surrounding the outbreak is rapidly and continually evolving and so the guidance will be reviewed regularly and be subject to update and amendment as appropriate.

STATUS

Currently in the UK different criteria applies within each of the devolved administrations. Please refer to the STATUS document.

Protecting others and reducing the demands on the NHS

Current advice on avoiding transmission of the virus can be found on the Government Website.

<https://www.gov.uk/government/collections/coronavirus-covid-19-list-of-guidance>

The advice for anyone in any setting is to follow these main guidelines:

- The most common symptoms of coronavirus (COVID-19) are recent onset of a new continuous cough and/or high temperature. If you have these symptoms, however mild, stay at home and do not leave your house for 7 days from when your symptoms started (if you live alone), or 14 days (if you live with someone who has symptoms). You do not need to call NHS 111 to go into self-isolation. If your symptoms worsen during home isolation or are no better after 7 days, contact [NHS 111 online](#). If you have no internet access, you should call NHS 111. For a medical emergency dial 999.
- Wash your hands more often than usual, for 20 seconds using soap and hot water, particularly after coughing, sneezing and blowing your nose, or after being in public areas where other people are doing so. Use hand sanitiser if that's all you have access to.
- To reduce the spread of germs when you cough or sneeze, cover your mouth and nose with a tissue, or your sleeve (not your hands) if you don't have a tissue, and throw the tissue in a bin immediately. Then wash your hands or use a hand sanitising gel.
- Clean and disinfect regularly touched objects and surfaces using your regular cleaning products to reduce the risk of passing the infection on to other people.

Anyone displaying any symptoms should NOT engage in any activity outside the home.

Rescue

We should all be familiar with the well established principle of getting the casualty safely to the surface, with minimal risk to the rescuer. Now have to consider risk to rescuer from viral infection.

Basic Life Support (BLS)

BSAC Sports Diver training includes skills of adult Basic Life Support (BLS) and the application of Cardiopulmonary Resuscitation (CPR) in circumstances where a casualty is unresponsive and not breathing normally.

Cardiopulmonary Resuscitation (CPR)

The UK Resuscitation Council (UKRC) has produced a series of guidance on resuscitation practice during period of the pandemic taking account of the risk of infection to both the casualty and the rescuer.

On land the most likely cause of a need for CPR is heart attack and for untrained rescuers the advice is to call for assistance and then provide chest compression only CPR. This technique is particularly effective where emergency medical services and advanced life support can take over within 10 minutes of the event occurring.

There are circumstances where chest compression only CPR may be ineffective and these include drowning casualties. In this situation, where respiratory arrest has occurred but the heart continues to circulate the blood, the oxygen in the blood is consumed by metabolism. In such circumstances it is important to re-oxygenate with ventilation or rescue breaths. Early rescue breaths will ensure that the heart continues to operate and breathing restarts.

The UK Government has published the following advice for first responders:

<https://www.gov.uk/government/publications/novel-coronavirus-2019-ncov-interim-guidance-for-first-responders/interim-guidance-for-first-responders-and-others-in-close-contact-with-symptomatic-people-with-potential-2019-ncov>

In the context of scuba diving:

“1. This guidance is for first responders . . . and others who may have close contact with individuals with potential coronavirus infection (COVID-19). This includes professionals and members of voluntary organisations who, as part of their normal roles, provide immediate assistance requiring close contact until further medical assistance arrives.”

The guidance includes:

“7.2 If you are required to perform cardiopulmonary resuscitation (CPR), you should conduct a risk assessment . . . and adopt appropriate precautions for infection control. In adults, it is recommended that you do not perform rescue breaths or mouth-to-mouth ventilation; perform chest compressions only. Compression-only CPR may be as effective as combined ventilation and compression in the first few minutes after non-asphyxial arrest (cardiac arrest not due to lack of oxygen).

Cardiac arrest in children is more likely to be caused by a respiratory problem (asphyxial arrest), therefore chest compressions alone are unlikely to be effective.

If a decision is made to perform mouth-to-mouth ventilation in asphyxial arrest, use a resuscitation face shield where available.

Should you have given mouth-to-mouth ventilation there are no additional actions to be taken other than to monitor yourself for symptoms of possible COVID-19 over the following 14 days. Should you develop such symptoms you should follow the advice on what to do on the NHS website.”

The guidance for asphyxia arrest would also correspond to that necessary for intervention in a drowning incident in diving and other conditions such as IPO.

Reducing the need for in-water rescue breaths

As a working diver normal practice is not to give rescue breaths (RB) until the casualty has been removed from the water to a safe platform (boat, shore etc). In these workplace situations, the diver will often be in direct contact with the surface (lifeline or umbilical) or be closely tracked by a boat. First aid trained personnel will often be competent in the use of bag valve mask. During the pandemic, our risk assessment might include reducing distances that the diver operates from the

shore, providing rescue support to get casualties back to the shore more quickly. When boat diving, reducing the number of pairs in the water will allow them to be tracked more closely and so responded to more quickly.

Where the decision has been made not to give in-water rescue breaths, it is important that the casualty's airway is opened and protected from the water on initial contact.

Risk Assessment

The decision on whether or not to provide Rescue Breaths (RB) during a rescue should be the subject of a specific Risk Assessment. This would take into account:

- proximity to the shore, boat or a hard platform on which CPR can be administered,
- the availability of an alternative to RB for ventilating the casualty, eg bag valve mask,
- the availability of a defibrillator
- the likely response time of the emergency services or advanced care

Note: in a diving context any potential casualty will normally have been fit to dive and be known to either their buddy and other members of a dive trip. None-the-less at the current time it is not always possible to know whether a person is carrying the coronavirus and therefore presents a risk of infection.

Situations where CPR is required in a diving environment in the UK are rare but do occur averaging no more than 20 per year. BSAC Incident report analysis in 2018 demonstrated the efficacy of rescue efforts including in-water rescue breaths, CPR, Oxygen enriched RB and AED use. www.bsac.com/incidentreport

Any member of a dive party trained in the delivery of CPR should consider their own Risk Assessment should they be called upon to assist another diver requiring CPR including:

- Personal attitude to risk of infection versus saving a life?
- Available PPE
- Assessment of likelihood to require RB inclusive CPR
- Assessment of response times for emergency services
- Availability of AED (what happens if voice prompts indicate give RB?)

Emergency equipment

Emergency equipment such as oxygen sets, AED and First Aid kits should be checked for function as normal. Checks on mouthpieces, oro-nasal masks and pocket masks should avoid breathing from them to minimise the risk of contamination. After checking all surfaces touched should be disinfected using appropriate wipes and allowed to dry fully before packing away. If not already included rescue equipment should be supplemented with protective equipment:

- Face shields or other barriers for protection of casualty and rescuers
- Gloves
- Antiseptic wipes
- Alcohol based hand sanitiser

Bag Valve Mask

For those who are trained and practised in the use of a bag valve mask (BVM) or bag and mask, this provides an effective means of ventilation of the casualty with reduced risk to the operator by avoiding the direct face-to-face contact of rescue breaths (RB). The BVM also allows the delivery of a high percentage of supplemental oxygen when used in conjunction with an oxygen set. However, it is important for the rescuer to wear PPE such as a mask or face-covering, eye protection and gloves. The rescuer should be trained in the use of this PPE to ensure effective protection.

To be used in conjunction with other guidance including:

- Medical guidance
- STATUS
- Equipment guidance
- Shore diving
- Diver Training
- Travel Guidance
- Charter boat diving
- RIB diving
- Swimming pool usage
- Etc.