

The British Sub-Aqua Club



National Diving Committee Diving Incidents Report **2013**

Compiled by

Brian Cumming

Diving Safety and Incidents Advisor

Introduction

This booklet contains the 2013 Diving Incidents Report, produced by British Sub-Aqua Club (BSAC) in the interest of promoting diving safety. It is important to note that it contains details of UK sports diving incidents occurring to divers of all affiliations, plus incidents occurring worldwide involving BSAC members.

The 2013 'Incident Year' ran from 1st October 2012 to 30th September 2013.

Report Format

The majority of statistical information contained within this report is also shown in graphical form. Please note that all statistical information is produced from UK data only and does not include Overseas Incidents unless noted as 'All Incidents'.

The contents of this report are split into an overview of the year, and then the details of nine incident categories plus some historical analyses. The various sections can be found as shown below:-

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Within each category the incidents are listed in the order of their occurrence, not necessarily that of Incident Reference. They are laid out in the following form:

MONTH/YEAR OF INCIDENT **INCIDENT REF.**
Brief Narrative of Incident.....
.....

The nature of many diving incidents is such that there is usually more than one cause or effect. Where this is the case the incident has been classified under the more appropriate cause or effect. For instance an incident involving a fast ascent, causing decompression illness, will be classified under 'Decompression Incidents'.

Brian Cumming,
BSAC Diving Incidents Advisor,
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and, in particular, all of those divers and other sources who have taken the trouble to complete Incident Reports and share their learning experience with others.

Overview

2013 has seen 263 UK diving incidents reported. This continues the decline first observed last year. In the years 2006 to 2011 the number of incidents reported had been fairly consistent at around 370. Last year saw that number fall to 314 and this year the trend continues.

- There are a number of possible reasons for this:-
- A normal amount of diving has taken place but:-
 - It has been safer and fewer incidents have occurred.
 - A normal number of incidents have occurred but fewer have been reported.
 - Less diving has taken place and thus fewer incidents have occurred, leading to fewer reports.

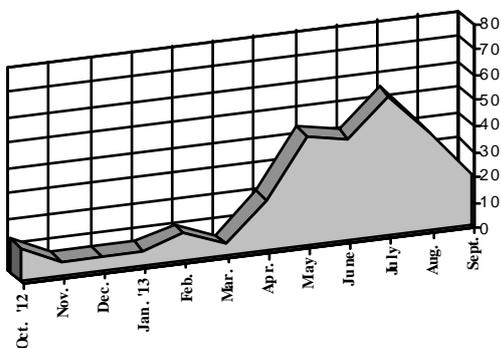
It would be nice if the first reason was found to be the cause of the reduction (safer diving) but it seems almost certain that the true reason is that there has simply been less diving in the UK in this period as there was in 2012.

Number of reported incidents



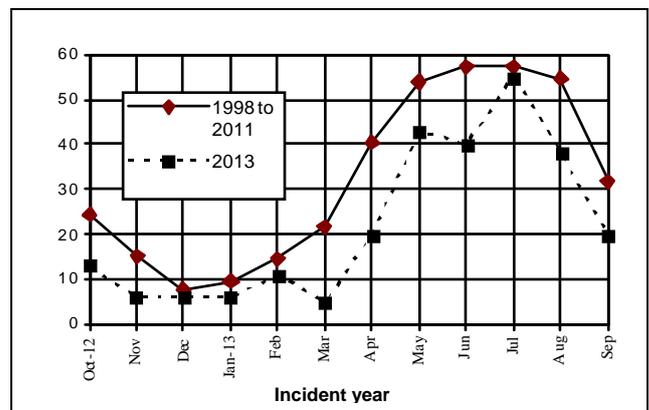
The distribution of reported incidents by month is shown in the following chart.

Incidents by month



Normally the distribution of incidents by month follows a sinusoidal form with the lowest number of dives in December and January, rising to a peak in June and July. This year the number of incidents is down overall and significantly depressed in the spring period. To illustrate this more clearly the following chart shows the average number of incidents reported per month in the years from 1998 to 2011 to provide a view of the 'normal' picture and also the 2013 numbers. 2012 has been excluded from this analysis as that too was an abnormal year.

Incidents by month

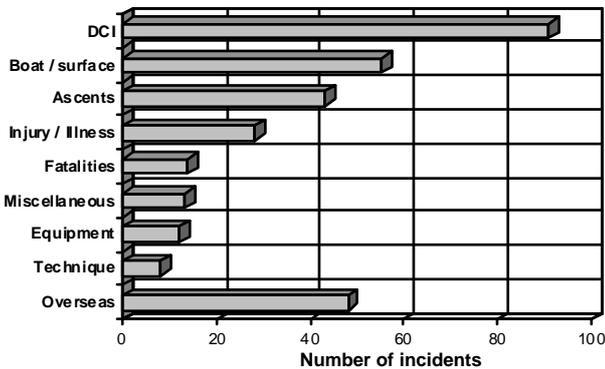


As can be seen, the number of incidents in March, April, May and June are quite a lot lower than is normal for this period. Easter was in April and that would normally be a time when many divers take to the water, a lot of them for their first dives of the year, and a surge of incidents in this period is normal. However, the weather in these months in 2013 was some of the worst on record (as it was in 2012). Easter was recorded as the coldest for 50 years with wide spread snow and ice and May was very similar, reported as being the coldest for 100 years. Clearly this would have deterred many from going diving and this is the most plausible explanation for the drop in numbers of reported incidents. The only other possibility is that for some unknown reason diving became safer in just these four months and that seems very unlikely. July saw much better weather, it was generally warm and sunny and, as can be seen, the number of incidents reported in July was at a normal level. Incidentally, August and September's totals are always somewhat depressed, each year, as a result of the time that it takes for reports to reach us. The cut-off period was very tight this year because of the timing of the Diving Officer's Conference and this partially explains the drop in August and September. Reports received post cut-off are included in the database for future research purposes but they are not included in the annual report.

Incidents by category

The incident database assigns all incidents into one of nine major categories, and the following chart shows the distribution of the 2013 incidents into those categories.

Categorisation of the year's incidents



This distribution is very much in line with the picture seen in previous years, although, of course, the overall numbers are lower than normal for recent years (excluding 2012).

Cases of 'DCI' have been following a slight downward trend over the last ten years and this year's total of 91 does not change that trend.

Incidents involving 'Boating and Surface' events had been falling progressively since the late 90s. In the period 2009 to 2011 this number had jumped back up to levels seen 10 years earlier. This year 55 incidents were recorded and this is much more in line with the earlier downward trend. This category mainly comprises of problems with boat engines (engine failure and out of fuel) and lost diver(s).

'Ascents' is the third category and this involves incidents where divers have made an abnormal ascent but avoided DCI or other injury. This category peaked in 2006 and has been steadily falling since that time. This trend is continued in 2013. 43 'Ascent' related incidents were reported and one has to go back to 1999 to find a lower number. A lot of effort has been put into improving diver buoyancy control and these numbers reflect the beneficial changes that have been made.

The fourth category is 'Illness and Injury' with 28 incidents reported. The bulk of this is thought to be cases of DCI. But these cases are reported through the RNLI and their reports do not specifically record DCI, they often just state 'Diver illness'. For this reason it is not possible to distinguish cases of DCI from other diver ailments. 28 cases is significantly below the average of recent years. The RNLI have changed their reporting of some diving related incidents and this many account for this fall, at least partially.

The last category to be mentioned specifically is 'Fatalities' and although the numbers are quite small it is, of course, the most serious. This year saw 14 diver fatalities; this is marginally below the average of the preceding ten years which was 15.

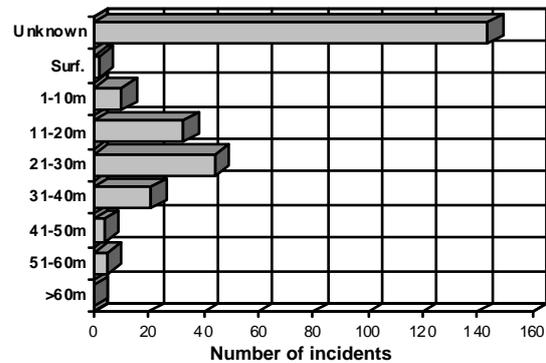
More analysis on these key incident categories is given later in the report.

At this point it is important to remember the conclusion that less diving has taken place this year. Less diving will mean fewer incidents, so lower numbers in all categories are to be expected. So a lower number does not automatically imply improved safety.

Incident depths

The following chart shows the maximum depth of the dives during which incidents took place, categorised into depth range groupings.

Maximum depth of dive involving an incident



The pattern of depths in the 0m to 50m range is very similar to that normally seen and reflects the amount of diving that takes place in these depth ranges.

The number of incidents reported in the greater than 50m ranges is 5, this is lower than has been seen in recent years. Incidents in this range are usually more serious and contain a disproportionate number of fatalities. This year there was one fatality in the greater than 50m depth range, and that involved a dive to a maximum depth of 54m.

BSAC advises that no air dive should be deeper than 50m, and that dives to 50m should only be conducted by divers who are appropriately trained and qualified.

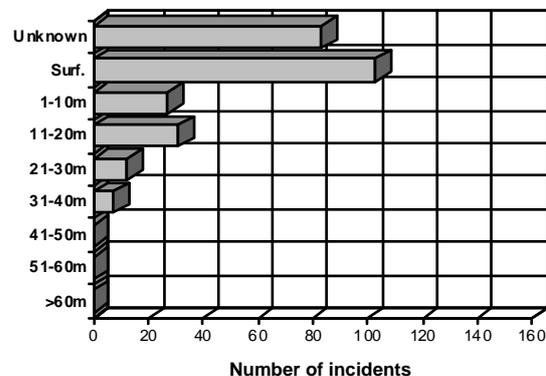
The recommended limit for divers trained to Sports Diver standard is 35m and then only when they have received appropriate training for diving at this depth.

BSAC recommends that helium mixtures are used for depths deeper than 40m and that mixed gas diving should be to a maximum depth of 100m. Mixed gas dives should only be conducted when the diver holds a recognized qualification to conduct such dives.

See the BSAC website for more details of these and other diving depth limit recommendations.

The next chart shows the depths at which incidents started.

Depth at which an incident started



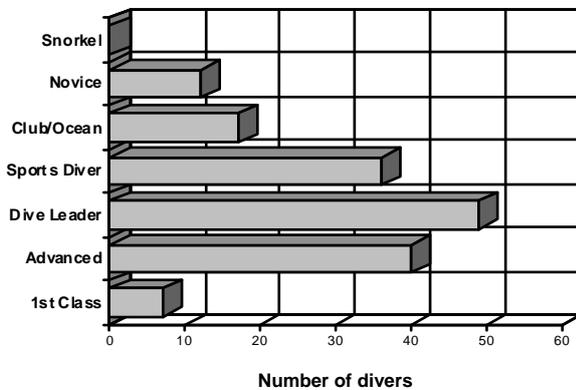
Inevitably the data are biased towards the shallower depths since many incidents happen during the ascent or at the surface. Critical among these are the DCI cases where almost always the casualty is out of the water before any problems are noted. This partially explains the large occurrence of 'Surface' cases as this includes divers with DCI who have left the water. Other surface incidents involve boats and boating incidents and divers who are lost but on the surface.

The depth profiles are consistent with previous years.

Diver qualifications

The next two charts show the qualification of those BSAC members who were involved in reported incidents. The first looks at the diver qualification.

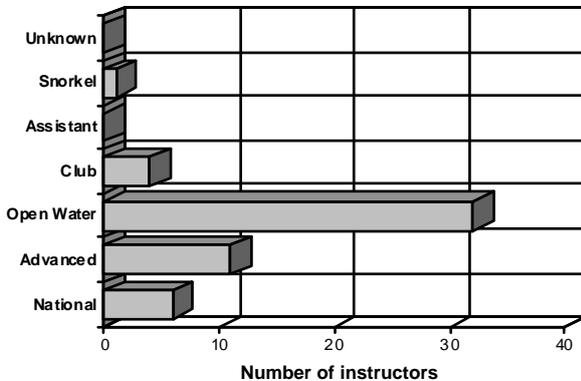
Qualification of the divers involved in incidents



These data are in line with the normal pattern of previous years and are thought to reflect the number of divers in these qualification grades.

The next chart shows an analysis of incident by instructor qualification and again it is consistent with previous years.

Qualification of instructors involved in incidents



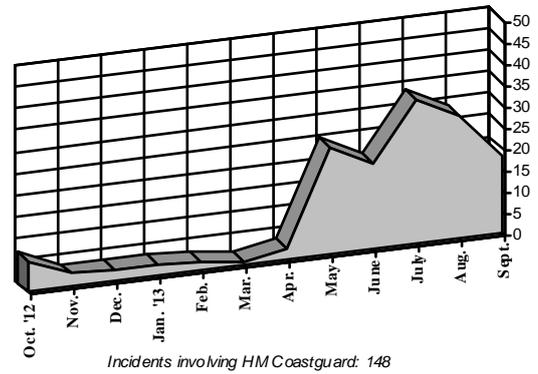
The low number for 'Club' instructor reflects the fact that this qualification is no longer part of the instructor development programme.

Divers' use of the Emergency Services

Divers' use of the emergency services shows a monthly distribution aligned to the distribution of all incidents, and is clearly correlated with the number of dives that are taking place. These charts reflect the March to June depression that was highlighted earlier in the report.

148 incidents were reported to us by the Coastguard. The average number of incidents reported by the Coastguard in recent years is just over 200. This picture supports the conclusion that there was less diving than normal in the spring and early summer months this year.

Incidents involving the UK Coastguard Agency - Monthly breakdown

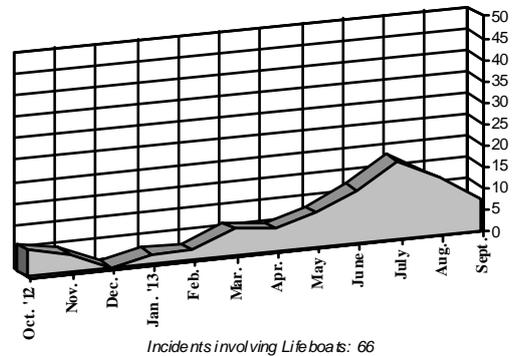


There were 66 incidents reported that involved the RNLI. Earlier years had seen a steady decline in divers' need for lifeboat assistance. However the previous three years saw that trend reversed. This year's total is in line with the earlier downward trend.

The RNLI's main support to divers involves assistance with disabled boats, searching for missing divers and the recovery of divers with DCI.

These data also reflect the dip in the first half of the year.

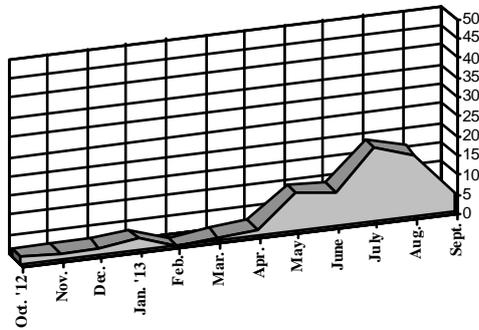
Divers' use of RNLI facilities by month



In 2013 71 incidents involved the use of helicopters. This is lower than normal and again reflects the reduced number of dives that have taken place.

In diving related incidents helicopters are mainly tasked to support searches for missing divers and to transport divers with DCI to recompression facilities.

Divers' use of SAR helicopters by month



Incidents involving helicopters: 71

Fatalities

14 fatal incidents occurred in the UK during the 2013 incident year. This is slightly below the average of 15 fatalities per year over the previous ten years. However, given the small numbers involved, this is not thought to be a significant difference.

5 of these people were BSAC members. The previous ten year average for BSAC fatalities in the UK is 6.2 fatalities per year.

9 of the year's fatalities were non-BSAC members. The previous ten year average for this group is 8.8. So this year's total is normal.

Key factors associated with these fatalities can be summarised as follows:-

- Three cases involved divers who suffered a 'non-diving' related medical incident (for example a heart attack) whilst in the water. Additionally there is one other case where it seems very likely that the diver suffered a 'medical event' whilst underwater, although evidence to substantiate this assumption is not currently available.
- Four cases involved a separation of some kind. In all except one case it seems that the separation was an unintentional result of other problems that the divers were experiencing. Separation in itself is not a cause of death but death might have been avoided if the casualties' buddies had been with them and thus potentially able to render assistance.
- Three cases involved divers who were unable to gain or maintain positive buoyancy when it was necessary and they sank as a result.
- Three cases involved divers diving in a group of three. Diving in groups of three (or more) brings additional complexity to a dive and can generate problems that don't exist with pair diving. However, it is not clear how much trio diving directly contributed to these three fatalities. BSAC recognises that, at times, it is necessary to dive in a group of three and guidelines will shortly be issued on this subject. Never-the-less pair diving will remain the strongly preferred option.
- Two cases involved divers who were diving alone. Additionally there is a third case where the diver was either diving solo or became separated whilst underwater; the situation is currently unclear. This diver was eventually found on the seabed, tangled in rope. Solo diving obviously removes the possibility that a buddy could assist if a diver gets into difficulties.

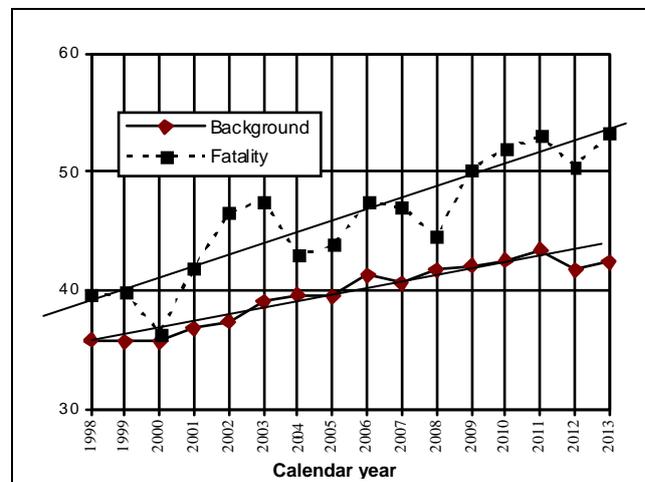
- One case involved a diver who was using a rebreather. It is not clear if the rebreather or its use was a primary factor in the incident. In previous years rebreather use has featured more prominently.
- One case involved a dive to a maximum depth of 54m. Usually depths greater than 50m feature more strongly in the fatal incidents.
- One case involved a diver who entered the water with his gas supply turned off.
- One case involved a double fatality where the divers were recovered from the seabed nine days later. Very little is currently known about this incident.

Often multiple causes are involved in an incident. With a number of these fatal incidents there is currently insufficient information available to be clear about the exact chain of events and specific root causes. Often new information comes to light (from coroners' inquests for example) after the publication of the annual report. Such information is added to the incident database for future research purposes.

Another feature worthy of note in relation to these fatalities is that five of them occurred in May (see chart page 7). Given the reduced amount of diving that was taking place in May, one might have expected a low number of serious incidents. Only 43 incidents were reported in May and 12% of them were fatalities. This could simply be an anomaly caused by chance and small numbers, or it could be an indicator that more care is required when undertaking one's first dives of the new diving season; it is probably a combination of both of these possibilities.

Diver age has been highlighted in recent years as a feature of note in fatal incidents, with a disproportionate rate of fatalities amongst older divers. This year that trend continues. 7 (50%) of the 2013 fatalities involved divers over the age of 50 (and 1 was actually 50). One suggested explanation for this is that the diving population overall is aging and thus the average of fatalities is bound to be rising. To throw further light on this a study of average diver age has been conducted. The chart below shows the background age of divers taken from the database (5250 data points) compared with the average age of fatalities from 1998 to the current year, where the age is known (244 data points). The incident database records (where known) the ages of all of those involved in diving incidents - the subjects of the incident, their buddies, rescuing divers and anyone else involved in the event. Thus it can be assumed that this information is a representative sample of all UK sports diving.

Divers' average age



Straight trend lines have been added to both sets of data.

It can be seen that the average age of the diving population has been steadily increasing, growing from around 36 in 1998 to 44 in 2013; a rate of 0.53 years/year. Whilst at the same time the average age of fatalities has risen from 39 to 54 a rate of 1 year/year. This trend was first identified in 2009 and the chart clearly shows the reason for this. Up until 2008 it seemed quite plausible that the average age of fatalities was simply tracking the background average age albeit with a 5 year age off-set; a very understandable proposal. However from 2009 onwards it became evident that this is not the true picture; the evidence of the last five years have confirmed the suspicions raised in 2009. The evidence currently available indicates that the age of the average fatality is increasing at almost twice the rate of the background age of the diving population in the UK.

The factors behind these findings are not fully understood and further study is necessary.

The natural tendency is for health and fitness to decline with increasing age and the above numbers seem to indicate that divers need to pay more attention to these aspects as they grow older.

A natural and obvious response to this is to consider mandatory medicals. However, expert diving medical opinion is that it is not possible to screen for latent medical problems. Accurate and honest reporting in the medical declaration form and subsequent follow-up, if necessary, is the correct approach. This is the current policy advocated by BSAC and others.

Decompression incidents

The BSAC database contains 91 reports of 'DCI' incidents in the 2013 incident year, some of which involved more than one casualty. When these multiple cases are counted the result is 101 cases of DCI.

An analysis of the causal factors associated with the 91 incidents reported in 2013 indicates the following major features:-

- 38 involved repeat diving
- 15 involved rapid ascents
- 13 involved diving to deeper than 30m
- 13 involved missed decompression stops

Some cases involved more than one of these factors.

The content and order of this list is virtually identical to previous years.

In addition to these factors there seems to be a growing number of reversed profile dives; dives where subsequent dives are deeper than earlier ones. This is contrary to recommended practice and is a feature that we will be monitoring more closely.

We know that we do not capture all of the DCI related incidents but the sample that is captured in this report is sufficiently large to develop a good understanding of the underlying causal factors.

As stated earlier, some of the 'Injury and Illness' incidents are also thought to be DCI related.

Boating and Surface incidents

The number of incidents reported in 2013 has dropped back to earlier levels with a total of 55 incidents recorded. The factors associated with these incidents are as follows:-

- 28 involved lost diver(s)
- 24 involved engine problems
- 8 involved boat problems
- 2 involved bad seamanship

Some cases involved more than one of these factors.

Ascent related incidents

Ascent related incidents have been falling in recent years and this year sees that trend continuing with 43 cases reported. As in previous years the majority of these were 'rapid ascents'.

An analysis of these 'rapid ascents' (where the detail is known) is as follows:-

- 42% Simply poor buoyancy control
- 23% Regulator free flows
- 16% Drysuit control malfunction/mis-use
- 13% Delayed SMB problems
- 13% Out of air / gas
- 10% Panic / anxiety / rush for surface
- 10% Weighting or weight related issues

The percentages may vary but the causal factors behind abnormal ascents have remained unchanged for many years.

It is certain that many other such cases have gone un-reported but it is anticipated that these root causes will apply to all uncontrolled ascents.

Many DCI cases have their origins in these problems; they have been recorded under the 'DCI' heading but the causal factors are the same, so the actual number of abnormal ascents recorded will be significantly higher than 43 cases.

This year's DCI cases included 15 incidents where rapid ascents had taken place.

Conclusions

Key conclusions are:-

- The number of incidents reported this year is about 29% lower than the level of recent years and it follows the trend noted in 2012. This reduction is due to a lower number of incidents reported in the period March to June. It is believed that this was caused by the very poor weather conditions in the UK during this period resulting in a reduced amount of diving taking place.
- The number of fatalities of BSAC members is slightly below the average of the previous 10 years.
- The number of fatalities of non-BSAC members is in line with the average of the previous 10 years.
- The causal factors associated with these fatalities and other incidents are very similar to those seen over a number of years; no new causal factors have been identified.
- Diver age and related health and fitness issues are still featuring as critical factors in this and recent years' fatalities. The average age of the subjects of this year's diving fatalities was 52.2. The average age of the background diving population in 2013 is 42.5.
- Incidents of DCI continue to fall.
- Ascent related incidents continue to reduce.
- Incidents relating to 'Boating & Surface' events have dropped back to earlier levels.
- The above conclusions need to be viewed in the light of a probable overall reduction in the amount of UK diving that has taken place in this period.

As has been stated many times before, most of the incidents reported within this document could have been avoided had those involved followed a few basic principles of safe diving practice. BSAC publishes a booklet called 'Safe Diving' (new edition imminent) which summarises all the key elements of safe diving and is available to all, free of charge, from the BSAC website or through BSAC HQ.

Remember you can never have too much practice and the further you stay away from the limits of your own personal capabilities the more likely you are to continue to enjoy your diving.

Please browse through the details in this report and use them to learn from others' mistakes. They have had the courage and generosity to record their experiences for publication, the least

that we can do is to use this information to avoid similar problems.

Finally, if you must have an incident please report it using our Incident Report form, available free via the BSAC website or from BSAC HQ.

As always, your anonymity is assured – great care is taken to preserve the confidentiality of any personal information recorded in BSAC Incident Reports.

Fatalities

November 2012 13/011

A diver was diving from a charter vessel with a group of seven other divers. After entering the water for a second dive the diver became ill and fell unconscious at 7m. The diver was recovered from the water and emergency services were alerted. An inshore RNLI lifeboat attended and returned the diver to shore whilst resuscitation efforts were made. The diver was airlifted by helicopter to hospital but did not survive.

December 2012 13/016

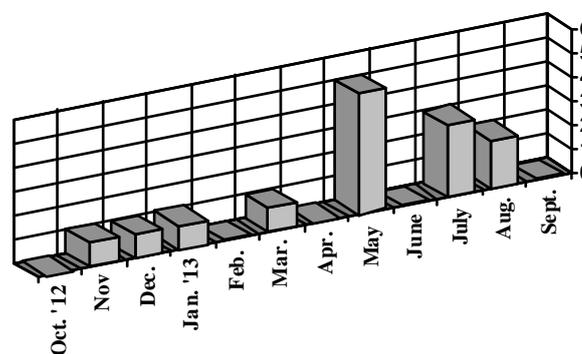
A group of three divers were diving together, one of them on a depth experience dive accompanied by an instructor and another diver. On reaching a maximum depth of 30m some silt was stirred up and one of the divers became agitated, grabbed hold of the instructor and the pair started to ascend. During the ascent the instructor was being pulled down by the distressed diver and ditched her own weightbelt but then became separated from the diver. As a result, the instructor ascended rapidly to the surface whilst the distressed diver sank. The third diver pursued the instructor to the surface where the alarm was raised and rescue divers mobilized to search for the missing diver. The missing diver was recovered and CPR attempts were made. The diver was airlifted to hospital where he was declared deceased. The other two divers, as well as one of the recovery divers who had suffered a free flow, were airlifted to a recompression chamber for treatment.

January 2013 13/023

The first time two student divers entered the water both had problems with one of their regulators, so the group got out of the water and went back to their vehicles. One of the student's regulator was changed for a fresh one borrowed from the instructor. The two students and their instructor re-entered the water from the shore. They did a bubble check at 3m; all three were fine. The two students led the way and the instructor followed slightly behind and above so both could be monitored. Going down the slope both students gave frequent hand signals. As the group approached the 50m mark, one of the students dropped slightly below to 52m and was signalled to come up to 50m. Both students turned and started back at which point the student who had descended too far was in front of the instructor. He grabbed hold of the instructor and signalled to go up. As he grabbed hold of the instructor both divers dropped on to a slope at 54m. The instructor made eye contact and slowed the student's breathing down because he was breathing heavily. The student indicated to go up, instructor returned the signal and signalled to the second student to ascend. The second student was buffeted by the bubbles so moved to one side at which point he lost sight of the troubled diver and instructor who had started to ascend more rapidly. This was caused by the student finning very hard. As the two divers approached the 40m mark the ascent became more rapid with their computers indicating the excess speed. The instructor was trying to slow the ascent by letting the air out of his own wing and the student's suit by pushing the shoulder dump. They reached 30m and at this point the student let go of the instructor. The instructor lost contact with the student so they separated with the instructor slightly above. The instructor made a grab for the student but missed. The student looked stationary at this point; the instructor was still ascending but trying to slow down. The instructor reached the surface about 24 min into the dive time, at which point the surface current moved him away from the ascent point. He searched for bubbles to descend on and gave the distress signal to the surface cover. He could not find any bubbles but he tried

dropping down. He could not equalize and was having trouble breathing. He decided to swim back to the start point of the dive to try and track the path of the dive. As he was returning back to the shore line the second student came to the surface having completed his necessary decompression stops; this was approximately 35 min into the dive. The second student had not seen the casualty since they got separated at the bottom. Both looked again for bubbles to see if the casualty was completing a decompression stop. Meanwhile surface cover had contacted the emergency services. The instructor did a search dive to 55m until he ran out of dive time. When he resurfaced the emergency services had started to arrive and were managing the situation. Surface searches were conducted by the Coastguard, police, fire and rescue service, mountain rescue teams and an RAF helicopter. A police underwater search team conducted searches of the area but no sign of the missing diver was found and the search was called off when it became too dark. The search resumed the following day before being called off due to bad weather. The diver's body was recovered by police divers the following day.

UK Fatalities - Monthly breakdown from October 2012 to September 2013 incl.



March 2013 13/040

A diver was reported to have been diving on an anchor of a fishing boat when the incident occurred. The diver was recovered to the shore where police and an ambulance attended. The diver was then airlifted by the Coastguard to hospital but despite efforts by hospital staff, was later pronounced deceased.

May 2013 13/058

The casualty was diving in a team of three. They entered the water for their second dive of the day. They did their final checks before descending. The three divers descended to the bottom at 8m but at this point they noticed that the casualty was not with them anymore. The two remaining divers searched for up to one minute and then slowly returned to the surface; the total dive time was 3 min. On the surface they saw that the casualty was being towed, unconscious, to the boat. The casualty was given oxygen and CPR until the helicopter arrived. The casualty was resuscitated on the helicopter but she died whilst in hospital the following morning. The instructor states that the coroner has informed them that the casualty suffered an arterial gas embolism. Later that day the diver who had

performed the in water rescue was taken to hospital suffering from shock.

May 2013 13/057

A student and instructor had conducted a first dive to 9m for 25 min. After a surface interval of around thirty minutes the pair were preparing to dive again. The student was sitting on a bench kitting up. The instructor noticed the student started puffing for breath then saw him go blank and slump to his left. The instructor, with the assistance of another passing diver, de-kitted the student and lowered him to the ground. The student was still breathing at this point and the instructor sent the other diver for help. Assistance arrived but as the student was being checked for breathing it stopped. CPR was commenced together with oxygen enriched rescue breaths. An AED was attached and the student was shocked a reported four times before the arrival of an ambulance. The student was then attended to by paramedics but was pronounced dead at the scene. A post mortem revealed that the student died of a heart attack.

May 2013 13/071

A diver and his buddy had descended to a maximum depth of 19m. The pair remained together and the buddy monitored the diver closely for any problems during the early stages of the dive but none were apparent. Approximately 11 min into the dive the buddy lost sight of the diver and, having conducted a 360 degree turn to look for him, saw the diver a short distance away and approached him. The diver seemed to be drifting upwards and was moving his arms as if to push himself back down and then he stopped moving and sank to the seabed. The buddy made contact and found the diver's eyes closed and he was unresponsive. The buddy raised the diver up to the surface using a controlled buoyant lift and immediately commenced rescue breaths and summoned help. The diver was recovered into one of the two RHIBs covering the diving group, CPR was commenced and the alarm raised. Oxygen was used for enhanced rescue breaths. An RNLI RHIB on a training exercise in the area responded and took the diver and one of the diving crew aboard to assist with CPR efforts. The diver was returned to shore to be met by a paramedic and then transferred to hospital where he was pronounced deceased. The diver's death was confirmed as being due to natural causes because of heart disease.

May 2013 13/081

Shetland MRCC received a call from a dive boat reporting two divers who had failed to surface after their dive in Scapa Flow, Orkney. The dive boat carried out a search in the immediate area of the dive site. Stromness RNLI lifeboat, and Coastguard rescue helicopter 102 were tasked and carried out a thorough search of the area, but the divers were not located. The Inter-Island ferry, Hoy Head also assisted in the search while on passage. The search resumed the following day. A police diving team were called in and conducted extensive ROV searches. The bodies of the two divers were located and recovered nine days later.

July 2013 13/114

A diver died after suffering a cardiac arrest while diving. police, paramedics and a search & rescue helicopter were called to the site but the diver was pronounced dead at the scene. (Media report).

July 2013 13/133

A diver had been reported as being in difficulty during a boat dive. The diver was reported as diving on his own with another person in the boat. An inshore lifeboat quickly found the diver face down in the sea. They recovered him into the lifeboat

where they commenced CPR, took him ashore to the lifeboat station where CPR was continued until paramedics arrived and took over treatment of the diver. The diver was taken to hospital where he was pronounced dead.

July 2013 13/141

Aberdeen MRCC was contacted by a dive boat reporting a missing diver on a wreck dive. A thorough search was made in the area around the wreck and the diver was located on the seabed, apparently tangled in line, but other divers were unable to recover him immediately. Co-ordination for recovery of the diver was passed to the police. The diver was recovered the following day by police divers. (Coastguard & RNLI reports).

BSAC Fatalities against membership 1982-2013
(UK fatalities only)



August 2013 13/170

A group of divers were preparing to dive an offshore reef from a charter boat. One pair intended to carry out a negative entry and descend direct to the reef without resurfacing. The first diver entered the water whilst the second was still adjusting his kit and he commenced his dive. The second diver entered the water and it was quickly apparent that his gas was not switched on and he surfaced briefly. The boat skipper noticed this and shouted at other divers to jump in and assist the diver. One diver already on the stern lift of the boat jumped in and grabbed the diver but was unable to keep hold as he was being dragged down quite quickly. A second diver descended and located the unconscious diver on the bottom but was unable to lift him immediately and had to remove his BCD in order to bring him to the surface. The rescuer and casualty ascended from a depth of 36m to the surface in approximately 40 secs. The BCD was recovered by the first diver to enter the water to assist. On surfacing the casualty was recovered onto the charter boat and given CPR by the skipper and others on board for 30 - 40 min. Another charter boat in close vicinity spotted what was going on and contacted the Coastguard and co-ordinated communications. A rescue helicopter was tasked and airlifted the casualty to hospital where he was declared deceased. The diver who recovered the casualty was not taken by the helicopter but shortly after started to display symptoms of DCI following his fast ascent. A further emergency call was made and the diver was airlifted to a recompression facility for treatment.

August 2013

13/171

A group of divers were wreck diving from a charter boat twenty-three miles off the coast. The last diver to enter the water noticed a rebreather diver on the shotline apparently 'fiddling' with his kit but his buddy, also a rebreather diver, was nearby and everything appeared to be under control so he continued with his dive. The buddy had noticed the diver bail out from his rebreather and appeared to have difficulty getting his regulator into his mouth and suddenly spat it out. The diver pushed it back into the distressed diver's mouth but he spat it out again. At this point the diver retrieved his bailout regulator, purged it in front of the distressed diver to demonstrate it had gas and then pushed into his mouth. A few moments later the distressed diver bit right through the mouthpiece and ejected the regulator.

At this point the buddy decided to rescue the distressed diver to the surface by a controlled buoyant lift. Once at the surface both divers were recovered to the boat but as the distressed diver was unconscious and not breathing. CPR was immediately administered by the buddy whilst the Coastguard was alerted by a distress call. Thirty minutes later, during which time the buddy continued with CPR, the helicopter arrived to evacuate the diver to hospital where he was pronounced dead on arrival. The buddy, who was in shock and with possible DCI, was given 83% oxygen until a lifeboat arrived to take him to a hyperbaric facility where he was given precautionary recompression treatment and then discharged.

Decompression Incidents

October 2012 **13/228**

Shetland coastguard received a call from a dive support vessel reporting they had a diver aboard suffering from suspected DCI. The vessel was 25 min from harbour, the vessel was met by an ambulance and tasked to Balfour chamber for treatment. (Coastguard report).

October 2012 **13/229**

Shetland Coastguard received a call from a dive support vessel, reporting having a diver onboard who was suffering from symptoms of DCI. The vessel came alongside and the diver was taken to Balfour chamber for treatment by private transport. (Coastguard report).

October 2012 **13/004**

A diver conducted a dive to a maximum depth of 52m using open circuit trimix 18/35 for a total dive time of 83 min including 58 min of decompression stops using nitrox 60. The diver's buddies were using closed circuit rebreathers using 18/35 diluent gas. After returning to shore and changing, the diver complained of swelling and inflammation in her right upper arm, which had the appearance of an insect bite reaction but had a mottled rash extending from the swelling. A recompression chamber was contacted for advice and after discussion the diver was requested to attend the chamber for assessment. The diver was placed on oxygen and the rash was noticed to reduce. A lymphatic DCI was diagnosed and the diver was given a five hour recompression treatment followed by a further treatment the next day.

October 2012 **13/042**

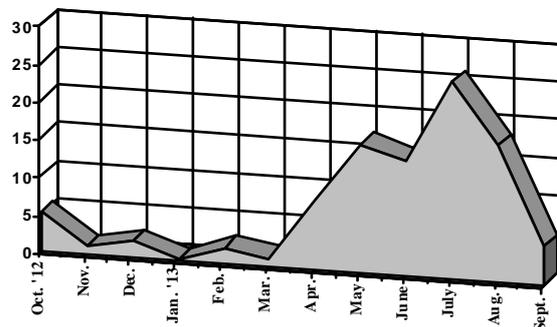
A diver had completed four dives over a two day hardboat dive trip. All dives were completed without incident, all safety and decompression stops completed, ascents were slow and controlled, dives were low work effort and the conditions and visibility were good. The diver did however admit to feeling dehydrated and stressed that day. About ninety minutes after the last dive and whilst disembarking, the diver noticed a pain in the right shoulder together with a rash and was advised by the skipper it could be a minor skin DCI. The diver was put on oxygen and took fluids but the problem did not resolve so the diver went to a recompression chamber for advice and assessment. On arrival at the chamber, the diver still had the shoulder pain and rash and was becoming aware of a slight stiffness in the right knee and tingling in the right toe. The diver underwent two sessions of recompression treatment and all symptoms were resolved and the all clear given with the proviso of not diving for a month and not until after review by a diving doctor, which was subsequently successful.

October 2012 **13/006**

A diver and her buddy completed two dives without incident, the first to 20m for 37 min and, after a surface interval of 3hr 30 min, 30m for 36 min including safety stops of 3 min at 4m. The diver was tired, cold and probably dehydrated prior to the second dive. Approximately an hour after surfacing from the second dive the diver noticed that her abdomen was very itchy and she had developed a raised reddish rash. Her club members thought it may have been a DCI and so placed her on oxygen. On approaching harbour it was decided to call a recompression chamber rather than the Coastguard but they were unable to contact them and on reaching shore decided to drive to the chamber. Whilst on route another club member called to say they had managed to contact the chamber and they were awaiting their arrival. Whilst on oxygen the rash improved and

the itching stopped. The oxygen cylinder had only been partially full and so quickly ran out and on arrival at the chamber the rash was covering a larger area than previously. The diver received a six hour recompression treatment and a further two hour treatment the following day. The rash did not completely clear and the second treatment produced no further improvement and so the diver was discharged and referred for a PFO check.

Decompression incidents by month



November 2012 **13/012**

A diver and his more experienced buddy conducted a dive on a wreck from a private RHIB to a maximum depth of 20m for a total duration of 45 min including a precautionary safety stop at 6m for 4 min. The diver was slightly buoyant during the stop and his depth fluctuated between 4m and 6m although he remained in control. After surfacing both divers were well and after ten minutes, during which the final pair of divers were recovered, the RHIB departed back to harbour. A few minutes after departure the diver began complaining of "sore kidneys on his right side" which it was believed may have been due to him pulling something when getting into the boat; he was kept under observation. Within a further five minutes the pain had worsened and the diver was placed on oxygen. A local chamber was called to seek advice during which time the diver's condition deteriorated and he began to complain of paralysis in his legs. At this point the boat was some ten to fifteen minutes from harbour and they decided not to call the Coastguard but an ambulance was called instead. On regaining harbour the diver was unable to walk, twenty-five minutes after the onset of symptoms. He was laid on the pontoon with legs elevated, placed on oxygen and remained conscious. An ambulance arrived within five minutes and they transported the diver to a nearby location from where a helicopter airlifted him to a recompression chamber for treatment. The diver underwent a seven hour recompression treatment and made a full recovery.

December 2012 **13/324**

No problems were noticed or reported by a student during a series of dives in confined water. However, subsequently the instructor received a letter from the student's husband stating that she had felt symptoms of DCI as described in the diving manual, and that she had sought medical advice. The casualty was treated in a recompression chamber and her symptoms alleviated.

December 2012**13/325**

Two days after completing training dives in open water the casualty called her instructor to discuss the fatigue, neck and shoulder pain that she was having. The instructor advised that she must contact a recompression facility. They recommended she went in to be examined. During this assessment they found out that the casualty had had an uncontrolled ascent on one of the dives which triggered her computer alarm and that she also felt cold during the dives. She was treated in the chamber for DCI and felt recovered afterwards.

worsen but were still present the following day. The diver contacted a recompression chamber for advice and they advised attending the facility for a check up. The diagnosis was that the symptoms were possibly a very mild DCI or that the diver had pulled a muscle in the shoulder. The diver was recompressed and the discomfort in the shoulder slightly alleviated but over the next couple of days all symptoms were resolved. The diver was advised to avoid diving for four weeks and get a check up with a medical referee before diving again.

December 2012**13/020**

Two divers in a party of divers were rescued from a quarry. The buddy pair had some difficulties with their equipment, had to surface quickly and were thought to be suffering from DCI. The Coastguard was alerted and the rescue was co-ordinated by the police. The pair were airlifted to hospital as a precaution.

April 2013**13/073**

Two divers carried out a first dive to 30m. After a gradual descent one of the divers carried out a regulator switch but it began to free flow. He signalled to abort the dive which they did immediately. The ascent was a little quick but controlled sufficiently so that neither diver's computer registered an alarm. Following a surface interval of over two hours the divers carried out another dive to 30m for 30 min and a further dive to 25m for 25 min. Two days later one of the divers felt 'woozy', with low dexterity and tiredness. He called a hyperbaric chamber and they advised him to come in for a check up. The diver was diagnosed with neurological and constitutional DCI and received two sessions of recompression treatment. Following the treatment and during a consultation with the diving doctor, the diver complained of recent dehydration. This led to a diagnosis of adult onset type one diabetes, the dehydrating effects of which predisposed the diver to the recent DCI.

February 2013**13/041**

A diver had completed three dives on the same day, two were training dives and the last was a leisure dive but with another diver and trainee who performed a controlled buoyant lift from 6m to the surface before re-descending to 12m to finish the dive. Later that night the diver felt very tired and had some pain and tingling in the left arm. The next day, following a bad night's sleep, the diver still had pains in the left arm with numbness and tingling, still felt tired and dizzy and the left cheek and two right toes went numb. The diver went to hospital and was put on oxygen and the symptoms were resolved. The diver then attended a recompression chamber for three sessions of treatment and was signed off as fit to dive having made a full recovery but advised on safe diving practices.

April 2013**13/078**

An instructor and two trainees were on a training dive with a controlled buoyant lift exercise being carried out at the end of the dive. One of the trainees was lifting a fellow student but lost control of the ascent from 5m. Immediately after surfacing, the student complained of a headache. Later that evening, as the headache had not subsided, the student was taken to a recompression chamber for treatment.

February 2013**13/238**

Belfast MRCC received a request from duty dive doctor, Aberdeen to activate hyperbaric chamber on the Isle of Cumbrae for a diver who was suffering from DCI. Cumbrae Coastguard rescue team tasked to assist with transfer of casualty. (Coastguard report).

April 2013**13/046**

On the second day of a diving weekend and about twenty minutes after completion of a dive, a diver felt sick and dizzy. It was assumed she was hungry and thirsty as she had eaten very little breakfast and not had much to drink. She was given a small amount of sugary food, a drink and a check on hand to eye co-ordination which showed no symptoms of DCI. The diver remained coherent and articulate but as her condition did not change and she had also been physically sick, she was put on oxygen and fluids. A check on her dive computer showed the dive was normal with good descents and ascents. With no improvement in the diver's condition, contact was made with a decompression chamber for advice and arrangements were made for contact with a local hyperbaric unit. Following a telephone conversation with the diver, the local chamber's doctor said the initial assessment was an inner ear barotrauma and advised her to come into their facility. At the chamber the diagnosis of inner ear DCI was confirmed. Interrogation of the diver's computer showed that the first day of diving involved three dives, the first one was aborted after 4 min and the following two dives to 16m showed two ascents per dive from 12m to 6m practising the use of an alternative source. Due to previous problems with equalization the diver had taken a decongestant tablet on both days. The diver was recompressed and she was sixty percent better compared to her condition on arrival. She was advised to take total bed rest until complete resolution of symptoms and thereafter to avoid any physical exertion for up to a week to allow the trauma to heal. The diver would be seen for review one month from end of treatment and advised not to dive or fly during this period. She was also warned against the use of decongestants before diving.

March 2013**13/032**

In the evening following two shallow dives to a maximum depth of 10m, a diver experienced pain in her right elbow but thought it was a strain from lifting equipment. The following day other symptoms appeared including aching all over her body, nausea, headache, an ache in her right elbow, feeling wobbly, dizzy and fatigued and she thought this was the onset of flu. The next day the diver was feeling less nauseous but still achy and with a rash on her arms. She still had a headache and was still feeling unwell. On advice she contacted a recompression chamber and they advised going to the nearest hospital and to be informed of her arrival once there. After a three hour delay in the hospital the diver was placed on oxygen, had blood tests and a chest x-ray before being taken to the recompression chamber. Subsequent treatment was recompression once a day for five days and the diver was discharged fully recovered. A PFO was suspected and the diver was awaiting further tests.

April 2013**13/043**

A diver completed seven dives over the four day Easter period. None of the dives involved unusual incidents and were within dive tables, a computer and the diver's maximum depth of 35m. All dives were non decompression and 3 min safety stops were carried out. The diver returned home and that evening noticed a mild discomfort in the right shoulder and mild loss of sensation in three fingers of the right hand. The diver put this down to fatigue from a long journey home and the physical exertion of the diving weekend. The symptoms remained the next day and did not

April 2013**13/049**

On the first dive of the day two divers were practising compass skills supervised by a dive leader. Three of the four bearings took the divers to their intended spot but an error on the fourth bearing took them to a unintended location. On checking their air one of the divers signalled they were beginning to get low and did not have enough to complete the dive plan. The dive leader took over and signalled a direction of travel to reach a wall and ascend there. En-route to the wall both divers signalled to the dive leader they were now low on air at which point the dive leader deployed her DSMB but her octopus regulator free flowed. With two divers low on air and as the free flow could not be stopped, the dive leader signalled to ascend. All the divers reached the surface but the ascent was rapid. About thirty minutes later, the dive leader experienced numbness in one finger and one of the other divers complained of chest pain. First aid oxygen was given and all three divers had treatment in a recompression chamber.

April 2013**13/125**

A diver had completed three dives on a Saturday and later that evening felt a sharp pain in his right knee which he put down to a strain from carrying kit during the day. On the Sunday, the diver carried out two further dives and still had some pain in the knee but not enough to cause concern. During the rest of the week the pain seemed to be easing but on the Saturday evening, following a short walk, the diver experienced a severe sharp pain in the knee which continued throughout the night. Thinking it might now be diving related, the diver contacted a hyperbaric chamber and the doctor advised him to attend as soon as possible and the diver received recompression treatment. The knee pain lessened slightly in the chamber and the diver was given the first of a course of anti-inflammatories. The diver received two further sessions of treatment and the knee pain reduced slightly and then subsequently fully resolved. There was no conclusive decision as to whether the pain had been diving related. Although the pain had reduced over three days of treatment it could have been due to the anti-inflammatories or simply due to the rest taken over the three days.

April 2013**13/123**

An instructor and two trainees had completed five dives over a weekend. No symptoms were felt immediately following diving however, on the Monday, the instructor experienced numbness in the left hand together with joint pain in the left knee. A hyperbaric chamber was contacted, DCI diagnosed and the diver received recompression treatment. It is believed that the DCI was due to a rapid ascent experienced on the final dive of the weekend when the instructor was attempting to arrest the ascent of a trainee. The trainees exhibited no symptoms of DCI.

May 2013**13/063**

Whilst driving home following a mixed gas rebreather course, a diver experienced discomfort and swelling to his upper arm. The following day the swelling and discomfort became progressively worse and he contacted a hyperbaric centre. He attended the centre and was diagnosed with a lymphatic DCI. He underwent recompression treatment with a minor improvement in his symptoms and, having stayed overnight in hospital, underwent further treatment the next day. The swelling was progressively moving down his arm and the discomfort improving. The hyperbaric centre discharged the diver but, as the diver appears to have had a lymphatic DCI previously, they were to contact him offering a test for PFO.

May 2013**13/243**

Portland MRCC tasked Poole CRT to prepare the HLS at Poole to assist the helimed aircraft which was inbound with a diver suffering from DCI. The diver was landed safely and taken to the recompression chamber by ambulance. (Coastguard report).

May 2013**13/075**

A trainee diver completed five training dives over a two day period. Two dives were undertaken on the first day and three dives on the second day. All five dives were completed without incident and within tables. The following day the diver experienced some discomfort and 'pins and needles' in his right shoulder. As he had previously injured this shoulder in an accident four years earlier, he initially took no action. However, when the symptoms worsened during the day, he contacted the instructor he had been diving with to alert her to the situation and seek advice. The instructor referred him to a hyperbaric chamber and the diver was called in for an assessment. The diver was given three sessions of recompression treatment as he was diagnosed with a mild case of DCI and that the diver's previous shoulder injury had been a contributory factor. The chamber advised the diver to refrain from diving for a month and to complete all subsequent dives on nitrox using air tables.

May 2013**13/064**

A diver became separated from his buddies around 25 min into a wreck dive. Whilst trying to locate them he disturbed the silty seabed and became disorientated. Because he was away from the shotline and with foggy conditions on the surface, the diver realised he was going to have to deploy his DSMB before he drifted away from the wreck. He was beginning to hyperventilate but settled on the seabed and with still no buddies visible deployed his DSMB. On reaching 20m, worrying about the ascent, being seen once he surfaced and struggling with buoyancy, he lost control and made a fast ascent to the surface. His maximum depth was 31m and his dive duration 30 min. The diver was recovered to the boat and first aid oxygen was administered. Contact was made with a recompression chamber and the diver referred for treatment. Suspected DCI was diagnosed and the diver underwent recompression treatment.

May 2013**13/061**

Portland MRCC tasked Coastguard helicopter rescue R-106 to a dive support vessel after they reported having a diver onboard who was showing symptoms of DCI following a dive approximately 4nm south of Burton Bradstock. The symptoms were 'pins and needles' at the base of the spine and at the top of the legs. The diver and his buddy were airlifted to Poole helicopter landing site to be met by an ambulance, dive doctor and Poole CRT, then transferred to the recompression chamber for treatment. (Coastguard report).

May 2013**13/069**

Stornoway MRCC received a call on channel 16 VHF reporting entering Tobermory Harbour, Isle of Mull with a dive casualty onboard. An ambulance and Tobermory CRT were tasked to meet the vessel. A medilink call was established with the dive doctor in Aberdeen, who recommended transfer to hospital by road and sea. The ambulance service tasked a helimed aircraft to uplift the casualty and his dive buddy, who was also feeling symptoms, to hospital. (Coastguard & RNLI reports).

May 2013**13/084**

A diver completed two dives and although feeling very tired, left the dive site. About three hours later he developed a headache, pain in the right shoulder, elbow and knee as well as in two fingers of his right hand. A hyperbaric unit was contacted and they referred the diver to a recompression facility. On arrival at

the facility the diver was diagnosed with DCI and underwent recompression treatment and his headache and pains resolved. Following a night in hospital, the diver was re-assessed and underwent a further session of recompression treatment after which he was symptom-free and discharged home.

May 2013 13/077

A diver had completed a morning dive with no problems until the ascent when she experienced ear pain. Back on the surface the ear pain lessened to a slight throb and was uncomfortable but she still could not equalise. The diver returned to the shore and began to feel sick and had a pain in her elbow which then went to her shoulder. The diver was put on oxygen and medical assistance summoned. A paramedic arrived and arrangements were made to airlift the diver to a recompression chamber. The diver received recompression treatment for DCI and was also being sent for a scan for suspected PFO.

May 2013 13/079

Following a wreck dive to a maximum depth of 53m for 75 min, a trimix rebreather diver developed signs of DCI. Portland MRCC tasked Coastguard helicopter rescue 106 to airlift the diver from his vessel near West Bay, Dorset to a recompression chamber for treatment. Poole Coastguard rescue officers met the helicopter at the Whitecliffe landing site, Poole and West Bay Coastguard rescue officers met the vessel when it returned to West Bay harbour. (Coastguard report).

May 2013 13/110

A diver had completed five training dives over a weekend, three on the first day and two on the second. All dives were completed within the normal limits of his dive computer with no mandatory decompression stops, rapid ascents or other major buoyancy issues involved. When returning home the diver felt tired but this seemed normal given the weekend's activity. The following day the diver was aware of 'pins and needles' in his back and left leg together with a feeling of being unable to fully concentrate. However, the diver attributed this to possible fatigue and perhaps back strain from the weekend's diving, carrying cylinders etc. The next day the diver was still experiencing all the symptoms and called a hyperbaric chamber for advice. The chamber recommended that the diver come in and after seeing the doctor the diver received recompression treatment for DCI. The treatment seemed to improve the symptoms though not completely resolve them so the diver underwent three further treatments. All the symptoms appeared to be completely resolved.

May 2013 13/089

Two divers descended to 19m but the dive leader reported that a current at depth, against which they could not fin, forced them to a depth of 27m. This depth was maintained for the duration of the dive and the dive leader, whilst acknowledging this was greater than the depth limit for his less experienced buddy, considered there was no risk to either diver. The divers were connected by a buddy line as the visibility at depth was considered inadequate for safe diving. At the agreed cylinder pressure, the divers began their ascent with both their computers indicating no decompression requirement. The buddy had used his BCD for buoyancy at depth but on the ascent only vented air from his drysuit. As his buoyancy increased and still connected by the buddy line, both divers made a rapid ascent to the surface. Both of the divers' computers 'locked out' at the surface indicating rapid ascent danger. As it was the second dive of the day for the dive leader, he was administered emergency oxygen on the boat as it returned to shore. Neither diver reported any symptoms of DCI but on reaching the shore the dive manager sought medical advice and both divers were sent to a

recompression chamber. On the journey to the chamber, the buddy complained of feeling very itchy on his chest and back. After medical examination both divers received recompression treatment and were told to refrain from diving activities for at least six weeks.

May 2013 13/131

A diver completed thirteen dives between 18m to 43m over the course of a week's diving finishing on a Friday. The following day the diver developed pain in his right elbow with pain later presenting in his right shoulder. Oxygen was administered and a hyperbaric centre contacted. The diver was admitted and received recompression treatment with a second treatment the following day.

May 2013 13/100

On the second day of a diving holiday a diver completed a no stop dive to 34m and a safety stop at 6m for 3 min. Back on the boat a diver complained that his equipment felt heavy and his legs felt like jelly. The diver was helped to de-kit, made to lie down and put on oxygen. The decision was made to send the diver to a recompression facility although the diver reported his condition to be improving. The diver was picked up by ambulance, delivered to the hyperbaric unit and underwent recompression treatment. The diver felt fine afterwards but was advised to have a check for PFO which he did but no PFO was detected. The cause of the incident could possibly have been the diver being over-weighted or possibly exhaustion as he had driven over 600 miles two days earlier with little sleep.

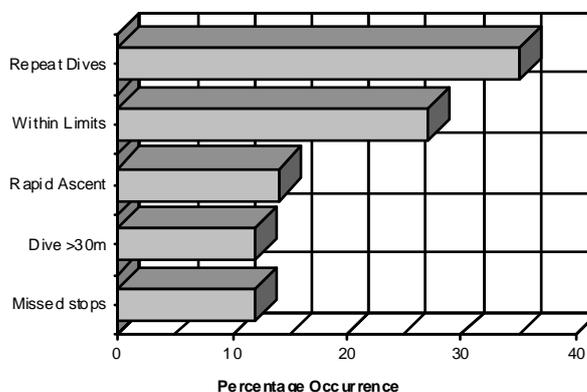
May 2013 13/056

After three uneventful boat dives over a two day period, a diver developed very mild DCI symptoms the following day. Following medical advice, the diver received recompression treatment and all symptoms were resolved.

May 2013 13/251

Shetland MRCC received a call from a dive boat reporting a diver with mild DCI symptoms. Casualty was brought into Houton pier and taken to Stromness hyperbaric chamber by ambulance. Stromness CRT were called to the pier to assist the vessel. (Coastguard report).

Percentage analysis of factors involved in cases of DCI



June 2013**13/254**

Solent MRCC tasked Coastguard helicopter R-104 to airlift a 47 year old diver suffering with DCI from a dive boat and transferred her to St.Richard's hospital, Chichester. Selsey Coastguard attended the HLS. (Coastguard report).

June 2013**13/103**

An instructor and two students were on the second dive of the day carrying out SMB drills. The SMB got tangled with a lobster pot marker on the surface so the lesson stopped. At this point one of the students was having difficulty with his fin and drysuit boot and was unable to refit his foot into the boot. However, this was apparently not communicated to the instructor as he was unaware of the problem. Unable to manoeuvre the SMB, the instructor decided to show the students how to use the SMB's reel and line as a distance line. The line was tied off to some rocks and the three divers reeled out and returned to the start point. The student with the fin and drysuit boot problem was now low on air and the group started to ascend, taking it in turns to use the SMB reel. At around 10m, the student with the boot problem was ascending too quickly and despite the instructor indicating he should slow down, the student could not control his rate of ascent. The instructor went to assist but both of them ended up on the surface quickly followed by the second student who had been given the signal to ascend by the instructor. The second student was blowing out hard as she rose to the surface missing a 1 min decompression stop. The group were recovered to the dive RHIB. The second student complained of a headache but this went away after 10 min and she helped recover other divers' kit into the boat following their dive. When she got back to shore she experienced 'pins and needles' in her hands and on the way home found them to be quite painful but put this down to her tight drysuit. At home she was still experiencing 'pins and needles' and noticed a rash on her shoulder. She contacted the instructor who advised her to phone the hospital who told her to attend a hyperbaric chamber as soon as possible. At the chamber the student was assessed with DCI and underwent three sessions of recompression treatment over three days. A possible PFO was being investigated.

June 2013**13/102**

On the last day of a three day dive trip, two divers were ascending from a 21m wreck dive on a DSMB. One of the divers performed a regular ascent with a shorter than planned 2 min safety stop but the buddy got caught in the drift tide and current resulting in an uncontrolled ascent from 15m but maintained a hold on the DSMB line. On the surface the buddy raised the alarm that she had missed her safety stop and was recovered to the dive boat. The buddy was immediately assessed and complained of 'tingling' and pain in her legs and hands and was put on first aid oxygen. The Coastguard was contacted and a lifeboat was dispatched with a further supply of oxygen. The other diver was also assessed but was not displaying any symptoms. The buddy reported that the symptoms in her legs were increasing as well as spreading to her upper limbs, most specifically her elbows. The Coastguard decided evacuation by helicopter was required and this was despatched. Two local dive boats in the vicinity donated their oxygen kits and the lifeboat arrived. Both divers were evacuated by helicopter and taken to a recompression chamber. The diver was assessed and with no symptoms of DCI was discharged that day. The buddy was confirmed as suffering from DCI and was recompressed with three sessions over three days and made a full recovery.

June 2013**13/328**

The casualty participated in five training dives over two days. The dives were within no-deco limits, included safety stops and there were no apparent incidents. The morning of the third day

the casualty had a pain in his arm and he had difficulty concentrating throughout the day. He contacted the a hyperbaric facility and was admitted for recompression treatment.

June 2013**13/258**

Falmouth MRCC tasked rescue helicopter R-193 to carry out the medical transfer of a 40 year old Belgian diver suffering from suspected DCI from Porthkerris to DDRC, Plymouth. (Coastguard report).

June 2013**13/135**

A diver had been diving for six consecutive days on a hardboat dive trip. Two dives a day were carried out using air and were within computer limits with no alarms showing on downloaded dive profiles. Decompression stops were in excess of the minimum required by the computer. Of the twelve dives carried out the deepest was to 40m on the third day and six of the dives were deeper than 30m but most were shelving reefs or wrecks allowing for gradual ascents. Surfacing from the last dive nothing was apparent and the diver helped in unloading the boat along with the rest of the group. Back at her accommodation the diver noticed a rash on her upper right arm and shoulder and suspected it was a skin DCI but with no other symptoms present and with the rash fading, she did not want to worry her non-diving partner but did inform the rest of the diving party. The following day the diver had swelling to her right upper arm and shoulder together with some pain. The other divers insisted she tell her partner and they telephoned a decompression help line for assistance. The advice was that the diver should attend the local hospital where she was examined by the duty doctor in consultation with the decompression help line doctor. The diver was evacuated by helicopter to a recompression chamber and diagnosed with a rare lymphatic tissue and neurological DCI and underwent eight sessions of recompression treatment. The diver was advised not to dive for three months and to be medically assessed before diving again.

June 2013**13/107**

A diver completed two dives to 21m with a surface interval of 2 hours 5 min between the dives. Leaving 21m on the second dive, his computer stated that he had 11 min of no stop time remaining but he carried out a 3 min safety stop. Whilst de-kitting, he pulled his drysuit neck seal over his head but when he came to pull off his right cuff seal with his left hand he experienced a sharp pain on the left side of his neck, which he initially thought was a 'crick'. He then experienced a severe burning pain from his neck, down his arm and to the bottom of the deltoid muscle in his shoulder. He thought it was the 'crick' radiating so sat down for a short while. After a few minutes, the diver stood up to tidy his gear away and found that his left leg had gone 'wobbly' to the point where he was not confident he could walk on it. With his buddy's assistance the diver was put on first aid oxygen for twenty minutes. After the first five to ten minutes the pain in his shoulder subsided and his leg felt better. Contact was made with a hyperbaric unit and the diver was told to go to a recompression facility where he underwent treatment for DCI. The diver was also arranging a PFO check.

June 2013**13/259**

Stornoway MRCC received a call from a dive boat reporting that they had a diver aboard showing signs of DCI. A medilink call was established with the dive doctor from ARI. Doctor requested the diver be taken to Lorne & Islands Hospital, Oban by Coastguard helicopter R-100. The diver was transferred to an awaiting ambulance by R-100. (Coastguard report).

June 2013**13/329**

The casualty was completing an enriched air nitrox course. During the course he lost control of his buoyancy and omitted a safety stop, however his computer indicated that he could continue diving and he felt fine. That evening he started feeling some numbness in his fingertips. The symptoms became more pronounced and he sought medical advice two days later. He was advised to go to a recompression chamber. He completed recompression treatment and was advised not to dive for one month.

skin DCI following her dive. She was transferred to a hyperbaric chamber by rescue helicopter R-125. (Coastguard report).

July 2013**13/266**

Stornoway MRCC received a request for medical advice, this was provided to a dive boat who reported two divers onboard suffering from suspected DCI. Oban lifeboat met the dive boat and transferred the divers for onward transport to a hyperbaric chamber for assessment and treatment. (Coastguard & RNLI reports).

June 2013**13/261**

Portland MRCC tasked coastguard helicopter R-106 to the National Diving Centre at Chepstow to evacuate a diver. The casualty was going to be landed at Poole for recompression treatment. Poole Coastguards manned the landing site and South Western Ambulance and the recompression chamber were alerted. R-106 helicopter was stood down as an air ambulance did the job instead. (Coastguard report).

July 2013**13/113**

A charter dive boat issued a 'Pan Pan' call on VHF Ch 16 reporting they had a diver onboard suffering with a possible DCI. The Coastguard tasked a rescue helicopter to evacuate the diver to a landing site where he was transported by ambulance to a recompression chamber. The diver, having done a previous dive to 10m for 60 min, was diving on a wreck in 28m, on air with two buddies. One was using a less conservative way of calculating decompression times (using a watch and not planning the dive using tables) and the other buddy was using nitrox but with his computer set to air. The diver ended up going into decompression because the buddy using the watch kept straying away and the diver and remaining buddy losing sight of him. When they started the ascent the diver's computer indicated that it would take 7 min to complete the ascent. The diver stopped at 6m to complete a safety stop but his weightbelt slipped to the side which made him panic and he lost buoyancy control and ascended to the surface. On the dive boat the diver was given first aid oxygen before the helicopter evacuation to a recompression chamber for treatment. (Coastguard report).

June 2013**13/105**

A lifeboat took a diver to hospital as he was suffering the warning signs of DCI. The diver became concerned about 'tingling' and after effects from his dive. The diver was taken by ambulance from the hospital to a hyperbaric unit. His condition was unknown.

June 2013**13/151**

A diver had completed a diving holiday comprising eight dives over five days. None were over 30m and all were no stop dives. Two days after the end of the holiday, the diver was doing a circuit training class when he experienced some visual disturbance, including blind spots, and he called a divers' emergency helpline. Within an hour the symptoms had gone but the diver attended hospital. Although the symptoms had disappeared and nothing wrong was found with his eyes, on the advice of a hyperbaric consultant, the diver received two sessions of precautionary recompression treatment.

July 2013**13/156**

A diver had completed a dive using nitrox 36. Following a surface interval, a second dive was carried out to 21m using air. During the dive whilst monitoring no stop times, the diver was surprised at how long they were able to stay down. It was only after 30 to 35 min that the diver realised the mix was still set to nitrox 36 on his computer and he was probably well into decompression stop requirements. The diver ascended as fast as he safely could and completed 7 min at 6m in an attempt to make up for the missed stops. On the drive home the diver felt a slight 'tightness' in his ring finger and although conscious that this may have been dive related, was not overly concerned as it was not getting any worse and there were no other obvious symptoms. The diver also admits to being embarrassed at his own stupidity in not checking his computer so did not mention this to anyone. In the early hours of the following morning the diver noticed his finger was still feeling 'tight' and contacted a hyperbaric chamber. The diver attended the facility and was diagnosed with DCI and received recompression treatment after which he felt fine and had no subsequent side effects.

June 2013**13/263**

MRCC Aberdeen were advised by ARCC that R131 was evacuating a diver suffering DCI, to ARI. (Coastguard report).

June 2013**13/111**

A dive boat skipper called the Coastguard to report that a diver had come ashore after conducting a wreck dive and was now showing signs of DCI. The dive was to 30m and the diver had experienced a 'sticky' ear at 28m which cleared. The dive was for 47 min including a 7 min of safety stop. Advice from a dive doctor recommended immediate evacuation. The dive boat put back out to sea and a Coastguard rescue helicopter was scrambled. The diver was winched aboard, flown to a landing site and transferred by ambulance to a recompression chamber. The diver received treatment for vestibular DCI and bad neurological symptoms and further recompression treatment was planned. (Coastguard report).

July 2013**13/188**

A diver had carried out two nitrox dives, the first to 19m for 50 min with a 3 min stop at 6m and the second to 30m for 35 min with a 5 min stop at 6m. After surfacing from the second dive and back in the boat the diver's right arm began to 'throb'. The diver received recompression treatment for mild muscle DCI and was advised not to dive for two weeks.

June 2013**13/264**

Humber MRCC received a call from a dive boat reporting they had a diver onboard suffering from symptoms of DCI. He was transferred ashore to be taken to the hyperbaric unit by ambulance for assessment. (Coastguard report).

July 2013**13/269**

Shetland Coastguard received a report that a diver had self referred to the local hyperbaric chamber, no further details held. (Coastguard report).

July 2013**13/265**

Humber MRCC were contacted by a dive boat reported having a diver onboard who was suffering from signs & symptoms of a

July 2013**13/130**

A group of divers had completed a week's diving in the 30 to 50m range with two dives a day. On Friday, the last day after the final dive to 45m, the group had lunch, offloaded equipment from the dive boat and travelled to their departure ferry port where they loaded the equipment into a container. At the ferry terminal, one of the divers complained of feeling unwell, was unsteady on his feet and had visual disturbances. He returned to the dive boat with another member of the group where he was assessed and thought to be suffering from DCI. Evacuation was arranged and he was taken by ambulance to a helipad and then by helicopter to a hyperbaric facility where he was subsequently recompressed. The remaining divers had boarded the ferry to travel home. Subsequently two other divers in the group were recompressed as reported in incidents 13/220 & 13/221. All three divers had used open circuit equipment using nitrox with two of them using higher mixes for decompression.

July 2013**13/272**

Solent MRCC were contacted by a dive boat reporting a diver onboard having missed stops and suffering symptoms of DCI. The diver was transferred to St Richards hospital by R-104. (Coastguard report).

July 2013**13/154**

A diver had completed three dives on the Saturday of a diving weekend and one on the Sunday. The diver had a fast ascent on the second dive on the Saturday but had descended back down to 3m to wait for his dive computer to clear. The Sunday dive went to plan but the buddy's computer showed a longer decompression stop time to that of the diver's adding 7 min to their decompression stop. After completion of the dive, the diver felt a little unwell but put this down to being out in the sun and having experienced similar symptoms in the weeks before. The following day the diver went to his doctor who felt it was vertigo, from the symptoms described. Two days later the diver contacted a hyperbaric chamber and they arranged for a local chamber to contact the diver. The diver received recompression treatment that evening for DCI.

July 2013**13/220**

A group of divers had completed a week's diving in the 30 to 50m range with two dives a day. On Friday, the last day after the final dive to 45m, the group had lunch, offloaded equipment from the dive boat and travelled to their departure ferry port where they loaded the equipment into a container. At the ferry terminal, one of the divers complained of feeling unwell, as reported in Incident No. 13/130. The remaining divers had boarded the ferry to travel home. The following day, Saturday, another diver in the group decided to seek medical advice as he was suffering from chest pain, joint pain and a rash. He was taken by ambulance to a hyperbaric unit where he was recompressed. It subsequently emerged that he had been feeling the symptoms since the Thursday but had not mentioned his worries to anyone. A number of days later another diver in the group was recompressed as reported in Incident 13/221. All three divers had used open circuit equipment using nitrox with two of them using higher mixes for decompression.

July 2013**13/121**

A dive boat issued a 'Pan Pan' call after two divers made a rapid ascent from 26m on a drift dive. The Coastguard took advice from a dive doctor and tasked a Coastguard rescue helicopter which arrived quickly on the scene. The two divers were assessed then airlifted to shore and taken by ambulance to a recompression chamber for treatment. During treatment one of the pair reported that on completion of the dive he deployed his DSMB causing the reel to snag. As the reel was attached to the diver by a bungee cord it caused a fast ascent to the surface as

he was unable to cut it. The buddy reported seeing the diver become entangled with the DSMB and get dragged to the surface but was unable to maintain contact with him and to complete his decompression stops. (Coastguard report).

July 2013**13/221**

A group of divers had completed a week's diving in the 30 to 50m range with two dives a day. On Friday, the last day after the final dive to 45m, the group had lunch, offloaded equipment from the dive boat and travelled to their departure ferry port where they loaded the equipment into a container. Two divers from the group suffered DCI as reported in Incidents 13/130 & 13/220. After several days of discussion about the two divers who had suffered DCI, another diver from the group began to suspect that he also had symptoms of DCI. He was the buddy of the diver who had been airlifted to a hyperbaric chamber in Incident 13/130 and had dived with him throughout the week. The buddy felt heavy and tired with some occasional 'pins and needles'. On the Tuesday, four days after diving had finished, he telephoned a recompression chamber and was advised to attend. He was assessed and although the symptoms were borderline, the diver was recompressed. All three divers had used open circuit equipment using nitrox with two of them using higher mixes for decompression.

July 2013**13/275**

Solent MRCC were contacted by a dive boat stating they had a diver onboard showing signs and symptoms of DCI. The boat returned to harbour and the diver was taken to hospital by ambulance for assessment. (Coastguard report).

July 2013**13/277**

Holyhead MRCC received a report of a diver showing signs and symptoms of DCI following a rapid ascent and missing decompression stops. He was transferred to a hyperbaric chamber by rescue helicopter R-122. (Coastguard report).

July 2013**13/278**

Shetland MRCC coordinated the transfer of a diver to hyperbaric chamber for assessment, no further details held. (Coastguard report).

July 2013**13/132**

A dive boat reported a diver showing signs of DCI. A Coastguard helicopter was tasked to pick up the diver. Meanwhile another diver onboard also showed signs of DCI. Both divers were airlifted to shore where a Coastguard team, ambulance and dive doctor were waiting to transfer the divers to a recompression facility. A report from the second diver, whilst receiving recompression treatment, was that they had surfaced from a 'text book' dive to find another diver had made a rapid ascent from 20m, had been put on oxygen and was lying down. As the Coastguard had been called the divers on the boat were requested to move all the equipment to allow room for the winch man. The second diver helped shift cylinders and other gear then sat down to wait. Gradually pain started across the diver's chest, into the left shoulder, arm and the abdomen and, when a visual migraine started, the diver lost peripheral vision. The diver received recompression treatment. The dive profile showed a first dive to 13m for 45 min and a second dive to 30m for 40 min. (Coastguard report).

July 2013**13/136**

A dive boat reported a diver showing signs of DCI following a rapid ascent from 25m. The diver was put on oxygen. Another diver on the boat had also shown signs of DCI. Both divers were airlifted to shore where a Coastguard team, ambulance and dive doctor were waiting to transfer the divers to a recompression

facility. As the diver who had made the fast ascent was not forthcoming with any information at the recompression facility and also refused treatment, it became necessary for this diver to be sedated. It then became clear that the diver had not dived for six years. His first dive had been to 13m for 45 min followed by the second dive to 25m for 25 min. (Coastguard report).

July 2013 13/140

A trimix diver was completing his fourth dive of a diving weekend, one dive on the Friday, two on the Saturday and one on the Sunday. On the fourth dive he noticed that his drysuit felt very tight around his upper right arm. He tried to move the suit around to loosen the fit but this did not work. The diver remembers thinking that he might get a bruise from it. The dive continued and, as with the other dives over the weekend, was conducted to plan. Around two hours after surfacing the diver noticed there was an oval shaped red mark on the inside of his right elbow. The mark itched a little and his right triceps muscle was a little painful. The diver decided to self administer oxygen and drink water. After an hour the mark had completely disappeared and the itching stopped but there was still a slight pain. The diver contacted a hyperbaric chamber who advised that he should attend if the pain got worse. The following morning the pain worsened so the diver went to the chamber and received recompression treatment but the pain did not improve at all. The doctor advised that there was no residual DCI and that the pain was probably as a result of bruising and/or a burst blood vessel caused by the drysuit squeeze and/or having knocked the triceps. The diver advised the doctor he had been boat diving for three days and had probably knocked his triceps on many things. The doctor suspected that this was the cause of the residual pain.

July 2013 13/134

Following two uneventful boat dives to 10m and 11m and approximately one hour after surfacing, a diver complained of 'pins and needles' in her hands and forearms. A hyperbaric chamber was contacted and, on advice from the duty doctor, a simple neurological examination was carried out. The doctor asked that the diver's arms be warmed as it was possible cold was causing the symptoms. However, there was no change and the diver was put on oxygen which gave immediate relief. The diver went to the chamber and the symptoms were still present on arrival. The diver was recompressed and made a full recovery. However, getting DCI with normal profiles following two shallow dives, the diver was advised never to dive again as there was an underlying issue.

July 2013 13/281

Belfast MRCC received a call from Aberdeen hospital reporting a diver suffering from DCI in Arran hospital and requiring transfer to the decompression chamber in Millport, Cumbrae. The patient was transferred by R-177 and HLS manned at both Broddick and Millport by Arran and Cumbrae Coastguard Rescue Teams. (Coastguard report).

July 2013 13/118

A rebreather diver missed decompression stops and, back on the dive boat, was put on first aid oxygen. Following medical advice, a Coastguard helicopter airlifted the diver to shore where a dive doctor was waiting along with an ambulance and Coastguards. The diver was recompressed and during treatment reported that she had felt anxious on the dive at around 8-10m and had tried to calm herself. She had recently reconfigured her equipment and weighting and although her trim felt different she believed that the incident was due to anxiety. (Coastguard report).

July 2013 13/282

Solent MRCC were alerted by a dive boat alongside in harbour, reporting a diver onboard who was displaying signs & symptoms of DCI following a normal dive profile. The diver was airlifted to hospital for assessment. (Coastguard report).

July 2013 13/285

Portland MRCC tasked Poole Coastguards to assist in preparing an HLS at Poole as there were travellers on the pad with an air ambulance inbound with a diver. Poole were there already checking the status of the site so they simply remained. The diver was recovered and was treated in the Poole recompression chamber. (Coastguard report).

July 2013 13/139

The Coastguard received an emergency call that a diver had suspected DCI. The dive boat was returning to harbour and a rescue team and ambulance were tasked to meet the diver. The diver was put on oxygen and transferred to hospital where a helicopter completed the transfer to a recompression chamber. The condition of the diver was reported as improving. (Media report).

August 2013 13/155

The Coastguard received an emergency call regarding a diver following a dive boat's return to harbour. An ambulance was called to the scene and the diver put on oxygen. The ambulance was escorted by Coastguard to a helipad where the diver was airlifted to a recompression chamber. The condition of the diver was reported as improving. (Media report).

August 2013 13/287

Stornoway MRCC received medical advice from Aberdeen Royal Infirmary, for an injured diver (female) with a suspected skin DCI, 2 miles South of Tobermory, the vessel transported the diver to Oban to attend the Lorne & Islands Hospital. (Coastguard report).

August 2013 13/158

Humber MRCC received a call on VHF CH16 from a dive RHIB; they had a diver onboard suffering DCI. Tynemouth ALB was diverted to assist from exercise whilst contact was made with the Diving Disease Research Centre. R-131 evacuated the diver and his buddy to Castle Hill Hospital, Hull, where Hull CRT and Yorkshire Ambulance Service were waiting and both casualties were taken to Hull Hyperbaric Chamber. (Coastguard & RNLI reports).

August 2013 13/167

Portland MRCC tasked Coastguard helicopter rescue R-104 from Lee on Solent to meet Weymouth RNLI lifeboat who had recovered a diver from West Bay who was showing symptoms of DCI following a rapid ascent from a dive from a local charter boat. The diver was airlifted to Poole HLS to be met by an ambulance, dive doctor and Poole CRT, and then transferred to the recompression chamber for treatment. (Coastguard & RNLI reports).

August 2013 13/160

Portland MRCC received a call from Southwest Ambulance via the ARCC, Coastguard helicopter R-106 from Portland was scrambled to Chepstow, Monmouthshire, to recover three divers who were showing symptoms of DCI following a dive in a quarry. The divers were airlifted to Poole HLS to be met by an ambulance, dive doctor and Poole CRT, and then transferred to the recompression chamber for treatment. (Coastguard report).

August 2013**13/293**

Aberdeen MRCC was contacted by a dive boat, reporting a diver onboard who had missed stops and was showing signs of DCI. A dive doctor provided medical advice and seeing that the boat was near to harbour they returned and the diver was transferred to hospital by ambulance for monitoring and assessment, on the advice of the doctor. (Coastguard report).

August 2013**13/162**

A trimix diver was carrying out decompression on oxygen at 6m following a dive to 51m when he noticed a mild ache in his left shoulder. After 22 min the pain was still there so the diver extended the stop by 6 min back on his dive gas and a further 6 min on oxygen. The pain went away so the diver and buddy started to ascend. The pain came back in both shoulders at 3m and remained when he surfaced. He got back into the dive boat, which had a lift, sat down and within a minute felt lightheaded. The diver woke up a minute later having suffered a seizure and still with pain in both shoulders and elbows. He was put on oxygen, the Coastguard contacted and the diver was airlifted to a recompression chamber. (Coastguard report).

August 2013**13/164**

Following a wreck dive to 30m a diver reported they had been incorrectly weighted and missed a 3 min safety stop after dropping their weightbelt. The buddy reported the diver had problems whilst ascending to do the safety stop and this was not completed correctly. Back on the boat the diver showed signs of DCI so the Coastguard was called and both divers were airlifted to a recompression chamber and received treatment. The Coastguard expressed concern that the diver, who was also an instructor, was experienced in diving overseas but that this was only his fourth UK sea dive and the buddy was doing their first sea dive of the year. (Coastguard report).

August 2013**13/296**

Portland Coastguard tasked Coastguard helicopter R-106 to a dive vessel, after the skipper called on VHF reporting a 35 year-old diver showing symptoms of DCI, following a dive off the east side of Portland. R-106 flew the casualty and his dive buddy to the landing site at Poole, where they were met by Poole Coastguards and a dive doctor, and from where a South West Ambulance conveyed both men to the nearby hyperbaric recompression chamber for immediate treatment. (Coastguard report).

August 2013**13/186**

A diver on a diving expedition had completed three dives on the first day of the trip. On the second day the first dive was to 26m for 42 min with a 3 min safety stop. After a surface interval of nearly three hours, the second dive was to 41m for 62 min with 8 min of decompression including a 3 min safety stop. Arriving back at his accommodation about an hour and ten minutes after surfacing, the diver bent over to pick up his bags and found his abdomen felt tender. On examination a rash had appeared on his abdomen and he started to have visual disturbances with blurring/tired eyes. He alerted the expedition leader who thought the rash was a possible skin DCI. The rash was monitored and it spread to the bottom of the diver's ribcage and the top of his arms and shoulders. It was decided the diver needed to have oxygen while medical assistance was sought. Another diver's rebreather unit was used to supply oxygen at around 80%. Within half an hour the diver and his buddy were evacuated by lifeboat and now on first aid oxygen, the diver experienced a slightly 'dead' feeling in his right leg and 'tingling' in his big toe. The divers were transferred to another lifeboat with a diving doctor onboard who recommended hyperbaric treatment for the diver and arrangements were made to transfer both the divers by ambulance to a hyperbaric chamber when the lifeboat reached

port. The buddy was checked throughout the journey and showed no symptoms of DCI. At the chamber the diver was further assessed and confirmed with DCI and given recompression treatment. All symptoms resolved and the diver was transferred to hospital for overnight observation and discharged the following day with the advice not to dive for four weeks and to have a PFO test.

August 2013**13/297**

MRCC Shetland was made aware of a diver suffering symptoms of DCI which was reported two days after the diver had last dived. The diver was transferred by ambulance to a hyperbaric chamber for assessment. (Coastguard report).

August 2013**13/172**

A diver had dived to a 30m wreck and found himself getting more buoyant at the bottom. He found that his BCD inflator valve was stuck open so disconnected it and continued the dive on his drysuit. After 14 min and with his air down to 70 bar he signalled to his two buddies that he was going up and deployed his DSMB at 28m. He had difficulty controlling the ascent and was reported to have held onto a jammed DSMB reel causing a rapid ascent. On the surface he was recovered to a dive boat and given oxygen. A 'Mayday' call was made to the Coastguard who immediately deployed a rescue helicopter. The diver was airlifted to a hyperbaric unit where he received recompression treatment. (Coastguard report).

August 2013**13/173**

A Coastguard rescue helicopter was tasked to a charter dive boat that had called to report they had a diver onboard who had suffered a rapid ascent and was showing signs of DCI. The diver was evacuated to a recompression chamber for treatment. It was reported that this was the diver's first UK sea dive and the second time attempting DSMB deployment. The diver and her buddy came up to 20m where the diver started to deploy her DSMB but lost control of buoyancy and ascended to 10m. Although spending a few minutes at 10m sorting out the DSMB the diver, possibly under-weighted, ascended straight to the surface missing a safety stop. The buddy deployed her own DSMB and surfaced shortly afterwards. On the boat the diver got cramps in her left arm and leg, felt unwell and was given oxygen. The symptoms got worse with cramps in all limbs and loss of feeling in lower arms and hands. Following recompression treatment the diver was symptom-free. (Coastguard report).

September 2013**13/189**

A diver had completed a relaxed dive to 24m. Thirty minutes after surfacing the diver noticed blurring in his right eye and 'buzzing' in his right ear whilst removing equipment from the dive boat. His first thought was that it was side effects from medication taken for indigestion. He informed the coxswain of the dive boat who did some checks and put the diver on oxygen and called the Coastguard who advised calling an ambulance. The diver's vision returned to normal but the 'buzzing' in his ear remained. The ambulance arrived and the medics decided to keep the diver on oxygen and take him to hospital. After being assessed the diver received recompression treatment and the 'buzzing' in his ear stopped after two hours. With no other symptoms present the diver was discharged but told to come back the following morning for another session of recompression treatment. The diver was advised not to dive for two weeks. Eight days later and not having taken any medication, the diver had a short episode of distorted and blurred vision together with a headache similar to that which he had experienced after the dive. Speaking with the hyperbaric unit they told him that it is very rare for symptoms to suddenly reappear after a week and advised the diver to go to hospital for a check up. After some hospital tests it was concluded that the diver had experienced a

'migraine with aura'. A doctor, who read all the hyperbaric reports, felt that the distorted vision experienced after the dive was this type of migraine triggered by offloading the boat, which was when the eye blurring started, and the 'buzzing' in the ear may have been caused by equalising too hard. The inside of the diver's ear was found to be inflamed.

September 2013

13/192

After an uneventful dive to 20m, a buddy pair ascended to 6m to complete a safety stop. One of the divers indicated that his semi drysuit was a bit tight and he was having difficulty breathing. After 3 min they made their way to the surface and exited the water. After the dive debrief the diver, who had difficulty breathing on the safety stop, said he felt giddy and unbalanced. However, after a three hour surface interval he felt well enough to do a shallow second dive to 7m for 36 min. All went well but he was still feeling slightly giddy. Thirty-six hours later the diver was still feeling the same so he contacted a diving doctor who arranged attendance at a hyperbaric unit. The diver received recompression treatment and made a full recovery.

September 2013

13/303

Shetland MRCC was made aware of a diver ashore reporting having symptoms of DCI. Eyemouth CRT and an ambulance were sent to their assistance and they were airlifted by rescue helicopter R131 to a hyperbaric chamber for treatment at Aberdeen Royal Infirmary. Aberdeen CRT and the ambulance service assisted with transfer to the chamber when the helicopter landed in Aberdeen. (Coastguard report).

September 2013

13/302

Shetland MRCC was contacted by a dive boat, who reported a diver onboard possibly suffering from signs and symptoms of DCI. Medical advice was provided by a dive doctor and they recommended transfer to a hyperbaric chamber for assessment. (Coastguard report).

September 2013

13/310

Stornoway MRCC was contacted by a dive boat reporting having a diver onboard with signs of a skin DCI. Medical advice provided by a dive doctor was to take the diver to hospital as soon as possible. Tobermory ALB was tasked to proceed to meet the boat. They then transferred the diver to Oban ALB which returned the diver ashore to be taken to Lorne & Isles hospital by ambulance for assessment. (Coastguard report).

Injury / Illness

October 2012

13/002

A diver was carrying two cylinders, one in each hand, down a wooden gangway to load onto a dive boat when he slipped backwards on the damp surface. During the fall the diver injured his knee and was in considerable pain and so an ambulance was called and diving cancelled for the day. The diver was transported to hospital by ambulance where he was found to have ruptured four tendons in his knee and had an operation to reattach the tendons. The diver was due to be immobilised for a total of twelve weeks. Discussions with a charter boat skipper moored at the same location indicated that at least four of his customers had suffered similar slips on the walkway during the same year. The owners had been informed but no remedial action had been taken.

October 2012

13/231

Whilst involved in diving activities a male diver became unwell onboard a dive support vessel near to Seahouses harbour. The crew on the vessel called the ambulance service who subsequently informed MRCC Humber. The male was taken to hospital by ambulance after ascertaining that the illness was not dive related. Seahouses Coastguard attended and gave safety advice. (Coastguard report).

November 2012

13/010

A student on a training course was conducting a controlled buoyant lift training exercise at a maximum depth of 6m when he complained of ear problems and appeared to have a little blood in his mask. The dive was aborted after a total dive time of 14 min and the student went for medical treatment. He was diagnosed with inflamed ears and advised not to dive again for twenty-eight days.

November 2012

13/009

An experienced diver was swimming breath-hold lengths during a club pool session. He was wearing a diving mask but no other diving equipment. He completed a length in the deep end and was seen to put his head underwater. Other swimmers checked he was alright and got a response but it became evident he was no longer responding as he began to sink lower and face down in the water. One member swam underneath him and looked into his mask and saw a small amount of blood and no sign of consciousness. He recovered him to the surface, took him to the poolside and assisted in recovering the unconscious swimmer from the water. First aid checks were conducted and on opening the diver's airway he responded and commenced breathing again. Sports centre staff were alerted and a paramedic arrived within five to ten minutes. The swimmer was transported to hospital and kept overnight for observation before being discharged the following day. The swimmer was believed to have been underwater for no more than two minutes.

January 2013

13/025

A diver appeared to be hypothermic following a dive. Blankets were given and the diver was put into warm clothing and given a warm drink. It was reported that the diver was not fully fit prior to turning up for the dive, possibly due to an infection, her condition was exacerbated by anxiety and lack of food. No emergency services were called.

January 2013

13/026

Thirty minutes after completing a dive to 35m a diver experienced wavy, shimmering visual disturbance in both eyes but eye co-ordination and reaction to light were fine. The diver

had no known health problems nor suffered migraines in the past. Oxygen was administered and the disturbance appeared resolved.

February 2013

13/027

On a training course a diver was ascending from a 29m dive when, at 20m, the diver felt a phlegmy, tight chest with gurgling inside and he started to struggle to breathe. The diver ascended within computer ascent rate until the last 5m. On the surface the diver was a grey/blue colour but normal colour returned when put on oxygen. The diver was coherent and responsive throughout and had no known health problems apart from a cold a few weeks earlier which he felt the symptoms may be returning. The diver was checked by a doctor and advised that he had a viral chest infection.

February 2013

13/028

Following a dive, alarm was raised when a diver was seen sitting on a wall and complained of feeling lightheaded, which apparently had happened before. The diver was very thin, suffered with cold, over-exertion and fainting. Oxygen was administered and advice offered.

February 2013

13/237

Aberdeen MRCC received a call from the duty dive doctor at ARI advising of an ill diver onboard a dive boat in Largo Bay. After speaking to the vessel direct, and in consultation with the doctor, the casualty was met by ambulance at Methil Docks and conveyed to Aberdeen Royal Infirmary. (Coastguard report).

March 2013

13/037

On the first dive of the day, two divers made a slow descent to the bottom spending about 2 min sorting out buoyancy and clearing ears. Having completed their descent and about to begin the exploratory part of their dive, the dive leader noticed his buddy had started swimming in circles so went to see what was wrong. The buddy looked blank but smiling, gave the 'up' signal and grabbed his BCD. The dive leader did a quick check for panic or if a rapid ascent was needed but, with no apparent urgency, he conducted a controlled buoyant lift to the surface. On the surface the diver established the buddy had felt dizzy underwater and didn't know where she was. The buddy was still disorientated but communicative and the dive leader began to tow her to shore but after a couple of minutes she had regained enough composure to surface swim to the exit point. A doctor confirmed that the buddy had suffered a burst ear drum.

April 2013

13/054

A group of six divers (two students, three divers & one instructor) were at a dive site. Following their first dive they saw a group of four divers, which included the casualty, arrive and kit up. They watched the casualty and his buddy enter the water, descend and swim out some distance underwater. They noticed the divers ascend; the casualty seemed to be distressed and unable to stay afloat. The buddy struggled to keep the casualty afloat and was trying to tow the casualty back. The casualty fell unconscious in the water and divers began to assist in the rescue by swimming to them and giving rescue breaths. They got the casualty out of the water and began CPR and oxygen administration; the casualty began breathing and recovered consciousness. They monitored the casualty until the emergency services arrived. He was taken to hospital and was reported to be making a recovery.

April 2013**13/326**

Whilst surfacing with a student, the casualty experienced a slight rapid ascent between 12m and 6m but he slowed to a normal ascent from 6m to the surface. They completed some surface skills and then moved to exit the water. Before they were able to exit the water the casualty experienced some pain in his chest area and, concerned, he informed the dive team of his symptoms. They left the water, removed his kit and administered oxygen. The emergency services were called and the casualty was transported to hospital for precautionary tests. He was discharged that evening with no further symptoms.

May 2013**13/095**

After surfacing a diver approached the lift at the stern of the dive boat but was unable to stand on the platform as it was too low. The skipper of the boat started to raise the lift but as the diver's feet hit the platform she was pushed forward by the pressure of water behind her and put out her hands to avoid hitting the stern. At this point both the diver's hands became trapped in the lift mechanism and although able to free one hand the other remained trapped in the mechanism which was still operating. The lift was switched off and the skipper, the diver's buddy and other divers on the boat used tools to open the metal and release the diver's hand. Back in the boat two of the divers took control, one was a nurse and the other a paramedic, whilst the skipper radioed ahead to arrange for an ambulance at the harbour. The diver was taken to hospital and treated for a very deep laceration to her left index finger.

May 2013**13/065**

A diver felt a bit unwell before a dive but, having sat out of the afternoon dive the day before, was keen to go diving. The dive went without incident apart from the diver's rebreather unit feeling uncomfortable and needing to shift it on his back whilst reeling in a distance line into the tide back to the shotline. Back on the boat the diver felt unwell, possibly seasick, and felt discomfort in his shoulder area. He informed his buddy and the dive manager. His dive was to 26m for 35 min including a 3 min stop. A lifeboat was sent to the scene and evacuated the diver and his buddy to the shore. A waiting ambulance took the divers to a recompression chamber for medical advice. The diver visited an osteopath three days later and inflammation in the intercostal muscles between the shoulder blade and the spine was diagnosed.

May 2013**13/080**

A dive RHIB was being towed from a slipway to a car park. Four people were riding in the RHIB while it was being towed. On route the boat bounced off the trailer throwing the occupants into the road with the RHIB landing on one of them who suffered chest and shoulder injuries. An ambulance was called and the injured diver was assessed by paramedics before being transferred to hospital by air ambulance. (Coastguard report).

June 2013**13/331**

The casualty was completing his fourth open water training dive and the dive went as planned. When it was time to ascend the casualty had difficulty controlling the ascent, so the instructor assisted and controlled the ascent to the safety stop. It was decided to conduct the dive again as the ascent had not been mastered. The casualty completed the next dive and then they attempted the ascent skill. During the ascent the casualty was unable to correctly vent air from his drysuit and finned to go up. As the casualty needed help to ascend correctly the instructor took him back down to try another time. During the next attempt the casualty became agitated and wasn't looking comfortable, so they ended the dive. At the surface they established the casualty's buoyancy and he was towed to the shore. He was out

of breath and needed help to exit the water. Later on he coughed small amounts of blood and so oxygen was administered and the emergency services were called. The casualty was admitted to hospital overnight and advised that it may have been a chest infection.

July 2013**13/332**

Before making a giant stride entry into confined water a student seemed unsure about standing close to the water's edge. The water of the pool came right to the top of the edge of the pool and so a high stride was needed to clear the water with her fins. The instructor tried to help the student by guiding her foot above the water but the student lost her balance and fell on her side. She suffered bruising on her leg.

July 2013**13/122**

Portland MRCC were contacted by a dive vessel, returning to Portland Harbour, reporting that a diver was experiencing abdominal problems. Following advice for the recompression chamber at Poole, he was airlifted to Poole to be examined by a specialist dive doctor. He was met by Poole Coastguards and South Western ambulance. At first it was thought the diver could have DCI but it was later believed not to be the case and the Coastguard helicopter airlifted the diver to hospital.

July 2013**13/274**

Shetland MRCC received a call from a dive boat, reporting a diver onboard who was having a suspected heart attack and the boat still had divers in the water. The boat returned ashore for the diver to be taken to hospital by ambulance. (Coastguard report).

July 2013**13/137**

Following a dive and back in the dive RHIB a diver had a bubble-like swelling under his right eye. He reported no pain or loss of vision and displayed no signs of DCI but stated that he had experienced difficulty with his right ear not clearing during the ascent but on the safety stop it had suddenly cleared. The RHIB returned to shore, a hyperbaric chamber was contacted and they requested the diver attend. On arrival the diver was assessed by the duty doctor and diagnosed with a subcutaneous orbital emphysema. No recompression treatment was required but the diver is awaiting further medical consultation and, as a precautionary measure, was told not to dive for a month.

July 2013**13/280**

MRCC Brixham obtained radio medical advice from the Diving Diseases Research Centre duty doctor for a male diver experiencing breathing problems onboard a dive boat in Plymouth Sound after a recent dive. The diver was transported to Derriford hospital for assessment by the doctor. (Coastguard & RNLI reports).

July 2013**13/334**

A group of students followed their instructor down to a platform at a depth of 7m to make an alternate air source ascent. The casualty and her buddy completed the skill but it was too fast so they were asked to descend and try again. During the descent the buddy became separated from the casualty and instructor. The casualty couldn't equalise and so went up to the surface. During her second attempt to descend her ear popped but she continued with the dive. She went to the doctor two days later and was told she had ruptured her eardrum.

August 2013**13/152**

Portland MRCC was contacted by a dive boat, approximately 5nm from Swanage Pier and with divers in the water, they

reported that a diver had suffered a dislocated knee. The casualty was airlifted by Coastguard helicopter R-106 to Dorset County hospital to be met by South Western Ambulance and Wyke Coastguards. (Coastguard report).

August 2013 **13/157**

Holyhead MRCC was contacted by a dive boat reporting they had a diver who had surfaced and been stung by a jellyfish in the face. The diver was suffering a lot of pain, and had difficulty breathing and chest pains. Medical advice from a dive doctor was for the diver to be taken to hospital first to treat the breathing problems. The boat returned ashore and the diver was transferred to hospital by ambulance. (Coastguard & RNLI reports).

August 2013 **13/323**

Lifeboat launched to help diver with illness. Person brought in. (RNLI report).

August 2013 **13/295**

Aberdeen MRCC received a call from a diver who was ashore in a harbour reported that he was feeling unwell. As they were ashore they were advised to call an ambulance for transfer to a hyperbaric chamber, Eyemouth CRT was sent to the scene to locate the diver. The diver was eventually transferred by rescue helicopter R-131. (Coastguard report).

September 2013 **13/176**

A ten year old snorkeler was reported to be in difficulty and thought to have suffered an epileptic seizure. A young man on the beach raced into action to help pull the snorkeler to safety. He dived into the sea to grab her, removed her mask and swam her to the side of a fishing boat. The snorkeler was recovered into the boat and the young man got in and wrapped towels around her. The Coastguard arranged a rescue helicopter to evacuate her to hospital. The girl was reported to be recovering in hospital. (Media report).

September 2013 **13/306**

Stornoway MRCC received a 999 call from a dive party ashore with one of them having problems. It was unclear if he was suffering from DCI, but he had suffered inhalation of seawater. The diver was receiving oxygen treatment but this had run out. The caller had to leave the party and go about 1 mile to obtain mobile phone coverage to call for help. Torridon and Oban CRT attended the scene and the diver was airlifted by rescue helicopter R-100 to Lorne & Isles hospital for assessment and treatment. (Coastguard report).

Boating & Surface Incidents

October 2012

13/001

The Coastguard was called to assist a diver who had become stranded on rocks on an offshore island after becoming separated from his dive party. Two lifeboats were launched but the crew were unable to reach the diver who was wedged in a crevice. After an hour and half the diver was airlifted by a rescue helicopter and transferred to hospital where he was treated for exhaustion and exposure.

October 2012

13/086

A fuel blockage caused engine failure on a dive boat. Two divers were visible on the surface but the boat could not recover them due to the engine failure. A call to the Coastguard was made and an inshore lifeboat deployed. Before the lifeboat arrived the dive boat managed to pick up the divers but, as the boat's engine was still unreliable, the vessel was towed back to port. (Coastguard & RNLI reports).

November 2012

13/233

Information received from MRCC Clyde of a 6m RHIB, with seven divers onboard, broken down and drifting off Kyle of Lochalsh. The RHIB was towed safely into Kyle harbour by a fishing vessel which had been tasked by Kyle harbour master. (Coastguard report).

December 2012

13/235

Belfast Coastguard tasked Largs ILB and Largs CRT to respond to a dive RHIB drifting without power between Cumbrae and Largs. Largs ILB intercepted the casualty (2POB) and established a tow to a slipway near Largs sailing club. Largs CRT provided assistance and advice on arrival. (Coastguard & RNLI reports).

January 2013

13/022

The Coastguard received a report that a diver was overdue from his dive boat which had one other person aboard. Two lifeboats, a helicopter, police RHIBs, and MoD and numerous dive boats searched and fairly quickly located the diver who was recovered and did not require any medical treatment.

April 2013

13/047

A group of divers were diving from a RHIB and had filled the fuel tank at the start of the weekend and used approximately half on the Saturday. On reaching the final dive site on the Sunday, the boat became swamped due to its low transom in the choppy conditions. Whilst the divers kitted up the coxswain slowly manoeuvred the boat around to clear some water. Minutes before the divers were ready to enter the water, the engine cut out and would not restart. Some divers de-kitted and bailed the water out but this did not rectify the situation. After a bit of investigation it was realised that the engine was out of fuel. Having drifted away from the shotline, the anchor was deployed and all divers de-kitted and remained in the boat. A call was made to a contact ashore in a marina for someone to arrange to bring fuel out to the boat. A passing dive RHIB was waved down and they agreed to go to the marina and try to collect some fuel. But, being a Sunday, no fuel stations were open so the RHIB returned and refuelled the stranded boat with the spare fuel they were carrying. The engine was restarted and the boat returned to the marina, the rescue RHIB following as a safety precaution. Following the incident, the fuel consumption was felt to be higher than normal but after various calculations on distance travelled, fuel consumption in relation to the numbers of divers, kit onboard and ruling out a possible leak or fuel being stolen from the boat

overnight, the conclusion was that the boat was at full capacity which resulted in a higher than normal fuel consumption rate. The divers have put in place a boat check protocol to check fuel before each journey, always refuel at the start of the day and carry spare fuel on all diving trips.

April 2013

13/224

A club RHIB had encountered problems following an engine service and had to be returned for adjustment. A trip was planned to test the engine and if possible conduct a dive to search for a torch lost on a previous occasion. The engine test proved satisfactory and it was decided it was safe to conduct the dive. The dive was conducted in the vicinity of a wreck within a harbour. A shotline was deployed and the divers conducted a circular search for the torch. The torch was located and one diver went to pass the torch to the other but the silty bottom was disturbed and the pair became separated. One diver followed the distance line back to the shotline and surfaced without further problem. The other diver deployed a DSMB and also surfaced safely. On surfacing both divers discovered that the boat was not approaching them. Whilst the divers had been underwater the RHIB engine had stopped and the RHIB had been blown towards the harbour wall. The coxswain had dropped the anchor but this did not get a solid hold until the RHIB was very close to the rocks of the harbour wall. The coxswain called the Coastguard to explain the situation. The Coastguard tasked an RNLI ILB to assist and a Coastguard helicopter, which was already in the area, flew over to assess the situation but took no further role. A passing fishing boat passed a towline to the RHIB and towed it away from the rocks allowing it to redeploy its anchor. The diver on the shotline managed to swim the short distance to the anchored RHIB. The diver on the DSMB was drifting and the fishing boat attempted to tow him back to the RHIB but aborted the attempt and recovered the diver and then transferred him to the lifeboat.

May 2013

13/178

A group of five divers were wreck diving using their 4m RHIB. The plan was to launch from a slipway, cross a stretch of water and use a beach near the wreck site as their shore base. This involved taking the divers and kit in two boat runs from the slipway to the beach, use the boat to support two waves of divers from the beach to dive the wreck and then return to the slipway using two boat runs from the beach. No VHF radios had been brought along so small walkie talkies were to be used to communicate between the boat, the slipway and the beach. The boat left the slipway with the first pair of divers and kit and deposited them on the beach. A test was carried out on the walkie talkies but the signal was very weak. A check of mobile phones confirmed a good signal and contact was made with the two remaining divers on the slipway. They were collected and taken to the beach and diving on the wreck carried out from the boat in the two waves. Following the second wave of three divers being recovered into the boat, the coxswain decided not to drop them back on the beach but to head straight back to the slipway, drop them off and return to the beach to collect the remaining diver, kit and all personal bags. The boat was heavily laden and hit some rough water which resulted in it becoming swamped. The engine began to struggle and the fuel tank was now underwater but, despite moving it on top of the dive kit, the engine cut out and would not restart. At this point it was discovered that the walkie talkies were both on the beach with the lone diver along with all the personal bags containing mobile phones. The boat was now drifting down the coast away from the slipway so the oars were used, along with a diver finning from the stern, to get the boat to shore where there was a main road and assistance. The Coastguard had already been alerted, by

mobile phone, by the lone diver left on the beach who had witnessed the whole event. A lifeboat was launched to recover the diver and equipment from the beach before recovering the boat and remaining divers to the slipway.

May 2013 13/242

Holyhead MRCC received a call from North Wales Ambulance of an overdue diver at Bull Bay. Diver reported to have resurfaced, Cemaes Coastguard rescue team tasked to ascertain the welfare of the diver. Diver checked over by ambulance crew no further medical assistance required. (Coastguard report).

May 2013 13/245

Liverpool MRCC received a call from a dive boat reporting that they had two overdue divers whilst diving on the wreck of the Dublin. Rescue helicopter 122 and Rhyl RNLI ALB were tasked. The vessel was given search instruction and whilst carrying out the search located the two divers of the surface, both were confirmed as unharmed and required no medical assistance. (Coastguard report).

May 2013 13/082

A dive RHIB was being run on a sea trial following a maintenance period. After about ten minutes the helmsman slowed the boat down at which point the engine stalled. Several unsuccessful attempts were made to restart the engine. The RHIB was in safe water and away from any shipping channels so the anchor was deployed to enable further investigation by the crew. No fault with the engine could be identified and the engine would not restart. A non-emergency call was made to the Coastguard and an inshore lifeboat deployed and towed the RHIB back to shore.

May 2013 13/247

999 call received expressing concern for two overdue divers in the Wemyss Bay (Forth) area. Further investigation conducted and coordination handover document prepared for incident transfer to MRCC Aberdeen. The first informant then reported that the divers had announced themselves safely ashore. (Coastguard report).

May 2013 13/250

Portland MRCC received a 'Pan Pan' urgency call on VHF radio from a dive boat who reported having two missing divers off Durlston Head. Shortly after the call was made it became apparent that both divers had been located by another dive boat, the vessel was able to confirm that both divers had been recovered safe and well and proceeded back to Poole harbour. (Coastguard report).

May 2013 13/312

Lifeboat assisted in the search for missing diver(s). Others coped. (RNLI report).

May 2013 13/249

MRCC Brixham received communications from a dive boat, with six POB, aground on Plymouth Breakwater after losing power. MOD launch Integrity responded and towed the vessel safely back to Mount Batten. (Coastguard report).

May 2013 13/248

Shetland MRCC was contacted by a dive boat who reported two overdue divers in Scapa Flow, Orkney. Stromness RNLI lifeboat and two other dive boats were tasked to assist and proceed to the dive location. Shortly after the initial call, the two divers had

been located safe and well on the surface about 300m from the dive site. (Coastguard report).

Analysis of boating & surface incidents



June 2013 13/256

Portland MRCC received a call from a dive vessel reporting that another vessel had picked up two divers in the sea off Lulworth Cove. The divers had become separated from their dive vessel, the assisting vessel was able to reunite the divers with their dive boat. On arrival back in Lulworth Cove the vessel was met by Lulworth Coastguard officers who gave safety advice. (Coastguard report).

June 2013 13/257

Belfast MRCC received a call on VHF CH16 from a dive boat which had broken down 2nm south of Kilkeel with nine POB. Kilkeel ILB were tasked to respond and assisted with restarting the vessel and escorting it up the lough to Greenore, where it was secured safely alongside. (Coastguard report).

June 2013 13/088

Two divers became separated from their dive boat. The divers were picked up by another vessel and reunited with their dive boat. On return to shore the crew of the dive boat were given safety advice by Coastguard officers. (Media report).

June 2013 13/260

Stornoway MRCC was contacted by a dive boat with six POB requesting assistance as it had suffered engine failure 1 mile from South Shields beach. Tynemouth ILB and Sunderland CRT was tasked. The vessel was towed back to Cullercoats harbour. (Coastguard report).

June 2013 13/109

Portland MRCC tasked Weymouth RNLI inshore and all weather lifeboats, Wyke Coastguards and numerous other craft in a search for a diver who was missing, in thick fog, from a dive RHIB whilst diving in Weymouth Bay. Soon after the search commenced he was located safe and well on the surface, no medical assistance was required. Lulworth Coastguards were tasked but stood down. Wyke Coastguards met the RHIB on return to Weymouth. The diver, who had been searching for scallops, had been in the water for around three hours.

June 2013**13/262**

Swansea MRCC tasked Mumbles RNLI all weather lifeboat to a 6.5mtr RHIB after it had suffered engine failure just off of Mumbles lighthouse. The vessel was safely towed back to Swansea marina by the lifeboat. (Coastguard & RNLI reports).

June 2013**13/106**

Portland MRCC received a call from a dive boat that had engine problems and became separated from their divers. The skipper was diving with his buddy and the pair left onboard were unable to deal with the engine problems, and were also unable to provide an accurate position or use the equipment on the boat properly. A nearby dive boat recovered the divers and assisted the boat back to harbour. An inshore lifeboat was tasked to assist. (Coastguard report).

June 2013**13/314**

Lifeboat launched to search for missing diver(s). One person landed. (RNLI report).

July 2013**13/268**

Portland MRCC were contacted by a vessel who reported a sighting of two unattached divers on the surface over Peverell Ledges. They had become separated from their dive boat at the end of a drift dive. The vessel recovered the divers and returned them to Swanage Pier to be re-united with their parent vessel. (Coastguard report).

July 2013**13/315**

Lifeboat assisted in the search for missing diver(s). Others coped. (RNLI report).

July 2013**13/116**

Solent MRCC received a call from a shore contact reporting two divers overdue returning from a night dive. They returned safe and well later than they had indicated to their shore contact. (Coastguard report).

July 2013**13/316**

Lifeboat assisted in the search for missing diver(s). Resolved unaided. (RNLI report).

July 2013**13/271**

Aberdeen MRCC were alerted to a diver that was overdue returning from a shore dive, before units were tasked he turned up safe and well. (Coastguard report).

July 2013**13/317**

Lifeboat launched to assist dive boat with engine problems. (RNLI report).

July 2013**13/117**

Two dive RHIBs were on a wreck site and had deployed their divers down a shotline. One of the boats experienced problems with an engine but as the second one was working they were able to recover their divers. A sea fog had started to form and the visibility had started to close in. Efforts were made to fix the problem engine but this was abandoned as it became apparent that it was a gearbox problem. Checking with the other RHIB, who still had two divers underwater, it was agreed that the boat with the problem would start back to shore as their speed would be decreased with only one working engine. While heading back the boat heard the RHIB that had remained on site make a call to the Coastguard saying they had lost contact with the shot buoy and their divers as their GPS had failed and surface visibility had

fallen to between 50-100m. Although using a backup GPS they did not have co-ordinates for the wreck. The RHIB returning to shore stopped and relayed the co-ordinates and the correct wreck name to the Coastguard who put out a 'Mayday' call to all vessels in the area as well as deploying lifeboats and a search and rescue helicopter. Two other dive boats responded with offers of help as the RHIB running on one engine was some distance from the site and could not return quickly. The two dive boats reached the wreck shot buoy but there were no divers visible. They assessed the direction of current by drifting from the shot buoy, then separated to steer the course of the current whilst keeping a sharp lookout. After about ten to fifteen minutes the divers were spotted approximately 1.2 nm from the shot buoy and the weather had started to improve with the fog beginning to lift. Both divers were recovered and neither had any problems. When they had surfaced from the dive to find their dive boat missing, they held onto the shotline for about twenty minutes until the current became too strong but this action had helped in reducing the distance they drifted. The divers had deployed DSMBs, used a whistle and a horn device but no one reporting hearing anything. An inshore lifeboat arrived at the shot buoy as the boat who recovered the divers was contacting the Coastguard. All boats returned safely to shore. The Coastguard watch manager said "that the dive boat did exactly the right thing by calling us as soon as it realised that it couldn't get back to the surface. Good communications at sea are vital in this situation".

July 2013**13/318**

Lifeboat launched to assist dive boat with engine problems. (RNLI report).

July 2013**13/276**

Swansea MRCC tasked RAF Rescue Helicopter R-169 and Appledore RNLI lifeboats to an overdue diver from a dive boat off Lundy Island. The diver was found while taking detail, safe and well. (Coastguard report).

July 2013**13/279**

Brixham MRCC tasked Plymouth RNLI inshore lifeboat and all weather lifeboat, RN rescue helicopter R-193 from Culdrose, other dive boats and an angling boat. All assisted in searching for a missing diver from a dive support vessel off Penlee, Plymouth. The diver surfaced safely without missing stops. Units stood down. 'Pan Pan' cancelled. (Coastguard & RNLI reports).

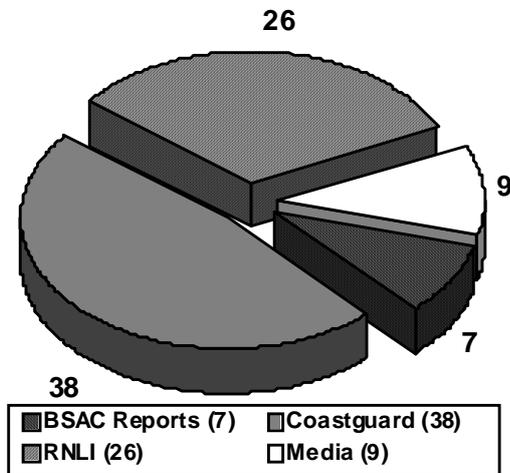
July 2013**13/335**

A group of eleven people were travelling in a dive boat when it was swamped by heavy seas. The boat rapidly capsized and started to sink, trapping people in the wheelhouse. All were able to escape the sinking boat. A lifeboat happened to be in the area, returning from an exercise. The boat party were recovered into the lifeboat and returned safely to the shore. (Media report).

July 2013**13/284**

Holyhead MRCC was alerted (eventually) to two divers overdue from their dive. Their dive boat had broken down and had been drifting for the time they had been missing. The report was not made to the Coastguard until they had been missing for about 2 hours. Two lifeboats assisted in the search. The divers were eventually located safe and well making for land having been swimming for about 2 hours and the boat was towed back to harbour. (Coastguard & RNLI reports).

Boating & surface incident report source analysis



August 2013 13/150

Following the first dive of the day, a group of divers loaded equipment onto a charter boat and into an attached tender (a small flat bottomed boat). The boat and divers set off for the next dive site and began lunch. They noticed that the tender had capsized and thrown the equipment it was carrying into the water. Some sank, some floated. In an attempt to rescue the equipment one of the divers was left on the tender which was cast off from the main boat to drift. The remaining divers and hardboat crew set off to recover drifting equipment. Some heavy kit such as weights and fins had sunk and were lost. Following recovery of as much equipment as possible, the tender was reattached to the charter boat which began to return to port. However, the tender capsized again and the additional stress snapped the tow line. A stronger line was attached and the boat and tender moved to a bay where the crew and divers righted the tender and reattached it to the boat. The boat and divers proceeded back to port and aborted the remaining week's diving.

August 2013 13/286

Milford Haven MRCC tasked Angle RNLI all weather lifeboat, Dale C Pilot vessel 'Picton', water ranger and police RHIB M33 to assist a dive support vessel off Thorn Island (Milford Haven Waterways) after she broadcast a 'Pan Pan'; stating she had lost power and was drifting with two divers still in the water. The divers were safely recovered and the vessel was towed into Dale, Pembrokeshire. (Coastguard & RNLI reports).

August 2013 13/290

Holyhead MRCC received a call reporting that four divers were missing off Porth Ysgaden. Two divers were recovered by another vessel and two by rescue helicopter R-122. (Coastguard report).

August 2013 13/319

Lifeboat launched to assist dive boat with engine problems. (RNLI report).

August 2013 13/289

Portland MRCC was contacted by the skipper of a charter vessel, calling on VHF to report that his vessel had been

swamped in Weymouth Bay and that he had suffered engine failure. A nearby vessel responded to a request for assistance and proceeded to the position. In the event, the crew of the dive vessel were able to restart their engine and they then returned safely to their mooring at Castletown in Portland Harbour. (Coastguard report).

August 2013 13/321

Lifeboat assisted in the search for missing diver(s). (RNLI report).

August 2013 13/320

Two lifeboats launched to assist dive boat with engine problems. (RNLI report).

August 2013 13/322

Lifeboat assisted in the search for missing diver(s). Others coped. (RNLI report).

August 2013 13/291

Falmouth MRCC received a 999 call reporting two divers to be on the surface and waving. Rescue R-193 was in the area for the local lifeboat day so they went and airlifted them and landed them ashore. They were being carried away by the tide and did not need any medical attention. (Coastguard report).

August 2013 13/292

Falmouth MRCC received a call from a dive RHIB reporting loss of main engine. They made their own way to St Ives using an auxiliary engine and maintaining a communications schedule with MRCC Falmouth. (Coastguard report).

August 2013 13/294

Portland MRCC received a report from a dive boat that one of his divers, on a re-breather, was approx 45min overdue after he lost sight of his SMB in poor visibility, he hadn't been seen by the other divers since they all entered the water. There was some uncertainty about the location of the dive boat. The visibility in the area was reported to have reduced since the divers entered the water. Three CRTs, two lifeboats, six local vessels and a helicopter were tasked to carry out a search for the diver. About 45 min after the diver was reported missing, he was located by one of the vessel searching and transferred to a lifeboat to be returned ashore. Safety advice was provided to the dive boat. (Coastguard & RNLI reports).

August 2013 13/166

A dive boat reported to the Coastguard that three divers were overdue from a drift dive. As the Coastguard gathered information the dive boat confirmed that all divers had surfaced a short distance away. (Media report).

August 2013 13/299

Humber MRCC was contacted by a dive boat who made a 999 call reporting a missing diver while close inshore. The diver and his buddy had both been making their way towards the dive boat but as the buddy was recovered to the boat the other diver disappeared. The dive boat had to be steered inshore and a second diver waded ashore to use a passer-by's mobile phone to alert the Coastguard as the boat did not have a marine VHF radio onboard. As the lifeboat arrived at the scene the diver resurfaced near his boat and was recovered safe and well.

September 2013 13/300

Holyhead MRCC took a 999 call reporting three divers stranded

ashore on an isolated beach following a shore dive. Treaddur Bay lifeboat was launched to their assistance and they were returned safely ashore. (Coastguard& RNLi reports).

September 2013 **13/174**

A group of eight divers travelled to an offshore site to conduct a second dive of the day. Tide tables and charts had been consulted and it had been calculated there would be little or no drift on the site. As the RHIB approached the dive site they checked a buoy in the area to confirm that there was only a minimal current running. The first divers to deploy were advised to drift with any current but that if there was no current to head in a westerly direction. The first pair of divers entered the water using an SMB and were seen to head in a westerly direction. The second pair entered without using an SMB but confirmed they would deploy a DSMB from the seabed, which they did and headed in a similar direction. The third pair also deployed a DSMB during their dive. After the first pair surfaced one took over the coxing role and the remaining pair prepared to dive. During this time the second pair surfaced and were recovered. The final pair were offered an SMB but declined to take it with them. It was assumed they would deploy a DSMB following the same procedure as the earlier groups but were not explicitly instructed to do so. After the divers descended it became apparent that they were not immediately deploying a DSMB. The RHIB tried to follow the divers' bubbles but quickly lost sight of them. The third pair then surfaced about 200m away and the RHIB went to recover them. The RHIB then tried send a recall signal to the final pair by revving the boat engine three times, this was repeated twice in the hope it would result in a DSMB deployment but there was no response. The senior divers onboard discussed options and agreed to continue searching until the divers were expected to run into decompression and so likely to surface. When this time had passed the Coastguard was alerted to the situation using a 'Pan Pan' call. The Coastguard tasked an RNLi lifeboat and a rescue helicopter to search for the missing divers. Other boats in the area also responded to the call and joined the search. When the helicopter arrived on scene they quickly located the missing divers approximately one mile south of the boat's position and they directed the RHIB back to recover their divers. The divers had deployed a DSMB at the end of the dive but were too far away to be spotted by the RHIB. The lead diver subsequently admitted he had forgotten to deploy the DSMB earlier in the dive.

September 2013 **13/184**

Portland MRCC received a call from a local vessel reporting losing contact with two divers off Portland Bill. Portland Bill National Coastwatch Institute lookout spotted the surface marker buoys and reported their position to the Coastguard. The divers were quickly recovered by the parent vessel (Coastguard report).

September 2013 **13/191**

After picking up divers the engine on a dive RHIB stopped and would not restart. As the dive boat was in a sheltered bay, the divers walked the boat onto a beach where they checked the engine, connections and fuel supply. After a while they got the engine restarted and began to make their way back around the bay to the slip where they had launched the boat. On route they were met by a local lifeboat which followed them back to the slip where they recovered their boat. It turned out that while trying to resolve the engine problem on the beach, one of the divers had walked around the bay which the rest of the group had thought was to see if there was another slipway nearby. In fact the diver had walked to the lifeboat station and reported the problem. Although having a marine radio/GMDSS onboard, the divers had not judged that the situation needed any assistance up to the point the lifeboat arrived. However they were happy to receive the reassurance the lifeboat crew offered.

September 2013 **13/305**

Aberdeen MRCC took a 999 call reporting a diver being washed onto rocks. Macduff ILB, Portsoy and Banff CRTs investigated. The lifeboat recovered the diver and returned him to shore safe and well where he was met by Coastguards and an ambulance. The diver had panicked after becoming separated from his buddy who was safe ashore. (Coastguard report).

September 2013 **13/307**

Brixham MRCC received a call from a dive boat with twelve POB that had broken down with engine problems. Torbay ALB was tasked to proceed, but the boat was able to get the engine started and return to harbour under their own power. They were met by Torbay CRT who provided safety advice. (Coastguard report).

Ascent Incidents

October 2012**13/085**

A dive vessel operating in Lyme Bay, contacted Portland Coastguard requesting medical advice for a male diver who had reached the surface after missing 30 min of de-compression stops. Following advice from a specialist dive doctor, Coastguard helicopter rescue R-106 was tasked to winch the diver from the vessel and take him for further treatment at the Poole recompression chamber. Poole Coastguard rescue officers manned the helicopter landing site in Poole, South Western Ambulance provided an ambulance for final transport to the chamber. (Coastguard report).

October 2012**13/008**

A diver was undertaking his first open water dive in a drysuit with his more experienced buddy on a wreck. On entering the water the diver was unable to get down and was handed additional weights totalling 5 kg before he was able to descend. During the dive the pair descended to a maximum depth of 15m and the diver was seen to be positioned above his buddy by 2m and had to swim down frequently but did not appear to be improperly weighted. After approximately 32 min at a depth of 10m the buddy indicated a fish below them and in looking down the diver made a feet first ascent direct to the surface. His buddy ascended at a controlled rate but omitted a precautionary safety stop at 3m. On surfacing the cover boat was called over, after initially having difficulty starting the engine, and the pair were recovered. The diver was placed on oxygen for approximately five minutes but he insisted he felt fine at all stages. It transpired that the diver had forgotten to fit his two 1 kg ankle weights and this had the effect of altering his posture. He was advised to seek further practice using his drysuit.

December 2012**13/017**

Two buddy pairs went in as a four to do a 60 min quarry dive to a maximum depth of 25m. Due to rainfall increasing the water level the maximum depth was 27m. One of the divers had a problem with some water in his regulator. When his primary regulator flooded, the diver switched to his octopus which also flooded and he made an uncontrolled ascent to the surface. One of the divers in the group, realising one of the other buddy pair was missing, paired the remaining two divers with instructions to remain by the buoy line and he then ascended where he found the missing diver lying on the surface about 10m away. He had to swim over to him to get a response but when he did, the diver was coherent and unharmed. The diver explained the problem he had experienced with his regulators and confirmed he was able to swim to the exit point where other divers were assembled and could help if required. The remaining diver descended to the buddy pair waiting underwater and gave directions so they could complete their dive. He then re-ascended and exited the water to check on the diver who had had the problem. Having inhaled water and with a buoyant ascent the diver was put on oxygen. An ambulance was called and the diver hospitalised for observation as a precaution.

February 2013**13/039**

Two divers were ascending from a 30m dive on a reef having deployed a DSMB. One diver appeared on the surface without her buddy who was still underwater on the DSMB. She was recovered from the water to the RHIB and, having missed 6 min of stops, was placed on oxygen as a precaution, given fluids and monitored for any symptoms of DCI. The buddy surfaced a few minutes later and was recovered into the boat. This was the diver's first dive with a new drysuit and she had experienced a problem with her shoulder auto dump valve as she was ascending to 11m and became too buoyant resulting in a fast

ascent to the surface. The diver was monitored continuously and presented no symptoms up to two days after the dive.

February 2013**13/030**

An instructor and two students were conducting a training dive using compass and a DSMB. On their ascent and at a 10m platform, one of the students started to panic. The instructor reached for and offered the other student's octopus regulator to the panicking student. The panicking student did not take the regulator until the other student took hold of his BCD, gave him her octopus regulator which he began breathing from. The instructor began to ascend the DSMB line. The student who was the rescuer dumped air from her BCD and drysuit to try and control buoyancy but the pair ascended too quickly. Once on the surface both divers inflated their own BCD's. They had surfaced next to the instructor's DSMB and could see his bubbles but not him and they raised the alarm that they had lost their instructor. He surfaced a few minutes later, reeling in the DSMB and having conducted a 1 min safety stop. The students were assisted to de-kit and were given oxygen as a safety measure. None of the divers were showing any signs of DCI at this time nor did they experience any later.

March 2013**13/052**

A pair of divers were five minutes into their dive in cold water at 4 deg C when one of them felt his regulator free flowing. As it was becoming difficult to breathe he signalled his buddy for them to ascend. The pair remained together but as the gauge was rapidly dropping, the diver with the free flow made the decision to go onto the buddy's AS. It became impossible to see the buddy or his AS due to the bubbles and, as the diver lost all air from his cylinder, he made the decision to go for the surface breathing out all the way. There were no ill effects following the dive and no oxygen was given but the diver was monitored for twenty four hours.

April 2013**13/044**

On the third dive of the day, three divers were at 18m when one of them experienced a free flow. The diver went to use one of the other diver's AS but this also went into free flow so she switched to the third diver's AS. When putting this into her mouth the diver swallowed a small amount of water, panicked and made a rapid ascent. First aid oxygen was administered.

April 2013**13/239**

MRCC Shetland arranged an ambulance and recompression chamber for a diver, from a dive boat, who had made a rapid ascent from a dive in Scapa Flow, Orkney. (Coastguard report).

April 2013**13/048**

A pair of divers began their dive with one of them struggling to descend and being helped down by their buddy. All was well until the divers started their slow ascent to a safety stop and the diver, who had problems on the descent, was unable to control her buoyancy despite dumping all the air from her drysuit and BCD. As she was positioned behind her buddy she could not alert him to what was happening and she made a rapid ascent to the surface. The surface conditions were very choppy with a current running along the shore line and the diver was too far out for the divers on shore to see or hear her as the wind carried away her voice. The diver began to slowly swim towards the shore signalling for help every so often. On reaching a rocky outcrop but unable to get out of the water, she secured herself, kept shouting and waited to be rescued. Help arrived a couple of minutes later as her buddy, who had surfaced as soon as he had

done a safety stop, had alerted the shore cover that his buddy was missing. The diver was helped back to the divers' shore base where she was given oxygen and a hot drink. The diver was uninjured and suffered no ill effects.

April 2013

13/067

Two divers were diving from a hardboat. During the buddy check one of the divers lost his grip whilst untangling one of his buddy's hoses and the zip from his glove caught on the soft flesh above the buddy's right eye. At the end of the dive, the divers ascended on a DSMB but whilst carrying out a stop at 6m, air migrated to the feet of the 'wounded' diver's drysuit. Unable to become vertical and dump air from the suit, the diver drifted upwards. She managed to re-join her buddy at 6m but drifted upwards once more and gathered pace to reach the surface. Back onboard the diver reported that she had experienced air migration to the legs of her drysuit throughout the dive but managed to control it. However, as a result of worsening cramps in both legs since stopping at 9m, she had been unable to get vertical and dump air from her drysuit. Her computer indicated that 4 min of decompression at 3m had been missed so the diver was monitored but did not experience any symptoms that gave her or the other divers concern. Two hours later the diver indicated that she had a headache and felt it was emanating from the now swollen and bruised brow of her right eye. These symptoms spread to both eyes but, as a migraine sufferer, she thought it was a migraine. The diver was monitored for the rest of the day but the symptoms still indicated a migraine and no DCI effects were experienced. Following migraine medication, the symptoms subsided overnight but the diver was left with a minor headache, some minor eye strain and difficulty in focusing. Diving continued that day with the eye problems persisting initially. The diver visited an optician for a check up and her eye problems were fully resolved ten days after the incident.

April 2013

13/146

Three divers were at 20m when one of them had a regulator free flow. All three made a fast ascent to the surface and, after a long surface interval, one of the divers had 'tingles' in her fingers and one of the others had pains in his chest. Both divers were administered oxygen and, following a call to a hyperbaric chamber, all three divers were asked to attend.

May 2013

13/094

Two divers were carrying out a dive and at around 42m with little of interest and visibility reducing, they decided to begin their ascent. As they began the ascent one of the diver's primary regulator began to free flow. The diver checked his computer to see that he had 95 bar of air remaining and his decompression requirement was 4 min at 9m. As the diver had previous experience of a free flow, he decided to make a controlled ascent to 9m using his remaining air and then switch to his pony for the decompression stop. On the ascent at about 24m the diver signalled to his buddy he was out of air. He continued to breathe down his main cylinder but inhaled water through his regulator which stopped him getting any more air. He tried to clear the regulator by coughing but to no avail. He swapped to his pony regulator but was still unable to breathe any air. The buddy offered his alternative air source but the diver declined sticking with his pony regulator. Both divers lost buoyancy and dropped back down to 45m where the diver was struggling to breathe. The buddy immediately grabbed the diver's shoulder strap to carry out a controlled buoyant lift but, as the diver's main cylinder was completely empty, he was unable to inflate the BCD. The buddy then tried to lift them both using his own BCD but despite filling it there was no lift so the buddy dropped his own weightbelt and they began to ascend. Arriving at the surface, the diver was conscious but was struggling to breathe and had severe stomach pains. The buddy gave a distress signal to the shore party and began a surface tow during which

the diver belched and regurgitated some water but was talking although obviously in distress. Two divers swam out from the shore and took over the tow from the buddy. The diver was put on oxygen and when the ambulance arrived checks were carried out. The diver had no symptoms of DCI but still had stomach pains. When the air ambulance arrived they recommended that the divers go to a recompression chamber but the divers declined as they were now feeling alright but would continue to monitor themselves and would report to the chamber if they had any DCI symptoms. The divers had no problems following the incident.

May 2013

13/060

On a boat dive, two divers were ascending the shotline when one of them lost a fin. The buddy signalled he was going to retrieve the fin which was floating downwards. He recovered the fin but his buddy had let go of the shotline and begun to descend. The buddy swam down and took hold of the diver by the cylinder handle to arrest her descent. They then started to ascend whilst trying to get back to the shotline. The diver who had lost the fin was dumping air because she felt she was beginning to make an uncontrolled ascent whilst her buddy was compensating by putting air in his BCD. Because he had so much air in his BCD the diver lost control of the ascent in the last 10m. Their computers had not gone into decompression but they had missed a non-compulsory three minute safety stop. The divers were recovered to the boat and given oxygen as a safety precaution. Although there were no symptoms of DCI the divers went to a recompression chamber for a medical check. Both were released on condition that should any symptoms occur they return immediately. On examining the fin, the clip that retained the fin strap in position was found to have fallen off.

May 2013

13/241

Aberdeen MRCC received a 999 call requesting assistance for a diver (female) at St Abbs harbour who had missed all decompression stops from a 33m dive. Eyemouth CRT and ambulance tasked, casualty taken to Borders General hospital for treatment. (Coastguard report).

May 2013

13/072

Two divers were carrying out a second dive of the day on a wreck with a maximum depth of 29m. 25 min into the dive both the divers failed to notice that they had gone into decompression. They continued their dive for a further 11 min before commencing their ascent with an unplanned 25 min decompression requirement. On reaching 6m the decompression requirement had reduced to 24 min - 3 min at 6m and 21 min at 3m. The divers failed to notice the shallower ceiling requirement and they remained at 6m. This resulted in the remaining 21 min of decompression clearing more slowly. 80 min into the dive and with 8 min of decompression remaining, their air was becoming low. One of the divers took his buddy's AS attached to a pony cylinder but was unable to breathe from it as it failed to deliver adequate air and was an exceptionally wet breathe. The divers surfaced missing the remaining 8 min of stops. The divers were recovered to the dive boat and into a heated cabin as both were very cold. Neither showed signs of DCI but oxygen and fluids were administered as a precaution. A hyperbaric unit was contacted and details passed on. As there were no DCI symptoms, the divers were advised that recompression would not be required but they should be monitored and not dive for the next twenty-four hours. The divers successfully completed dives later in the week.

May 2013

13/066

Rescue 193 was tasked to airlift a 50 year old male from a dive boat after he did a rapid ascent; position was 3nm southeast of Chapel Point, Cornwall. The casualty was transferred to the

Diving Diseases Research Centre in Plymouth for treatment. Mevagissey and Plymouth Coastguard were also in attendance. (Coastguard report).

May 2013**13/244**

Humber MRCC received a call from a dive RHIB reporting that he had a diver onboard who had made a rapid ascent. The male aged 41 was on 100% oxygen and being given sips of water. He was not showing any symptoms of DCI at the time. A link call was established with the Institute of Naval Medicine and the diver was taken into South Shields where he was met by ambulance and paramedics, together with Sunderland CRT. (Coastguard report).

May 2013**13/145**

At 20m and with 50 bar left in his cylinder, a diver had started to ascend when it became uncontrolled. Showing no symptoms he was put on oxygen as a precaution.

June 2013**13/087**

As the tide was turning on a wreck dive, a diver and his buddy stopped to deploy a DSMB to start their ascent. Realising the current was likely to sweep them off the wreck both divers dropped over the side, deployed the DSMB and holding onto each other they drifted away from the wreck. The diver realised that his buddy was not reeling in the line so signalled for him to start doing so, which the buddy did, but then stopped again. The diver took the reel from his buddy to control the DSMB and their ascent rate. The buddy seemed keen to maintain contact with the diver and when they arrived at 9m, having signalled OK to each other, they ascended to 6m for 11 min of decompression stops. After a minute or so the buddy began pulling and pushing the diver as he thought the diver was ascending out of control. The diver found himself above 6m and his buddy but, whilst finning down to re-join him, became entangled in the DSMB line. This happened a couple of times so the diver pushed his buddy away from him after passing him the reel and line. As he did so, the buddy floated upwards and despite trying to slow his ascent, continued to the surface missing approximately 8 min of decompression stops at 6m. The diver could see his buddy upright on the surface so reached for his own DSMB and reel. However, the snap clips of his trim weight and the reel had become entangled and the diver was unable to unclip his reel. Realising that he was now unable to show his location to the surface cover, the diver began to panic. Whilst trying to remove his reel he descended to 24m where he deployed his DSMB with the reel still attached to his harness but was prepared to cut the line if necessary. The diver ascended but at 10m the reel jammed so the diver then coiled the line until he reached 6m for his decompression stops. The descent to 24m had penalised the diver with a total of 12 min decompression stops at 6m which he completed without further incident. Both divers were recovered to the boat but as the buddy had missed decompression stops he was put on first aid oxygen. The Coastguard was contacted and they dispatched a lifeboat and helicopter. The buddy was taken to a recompression facility as a precautionary measure but did not require recompression treatment and was discharged after a couple of hours.

June 2013**13/092**

On the first sea dive of the season a pair of divers entered the water from their dive boat. On the surface one of the diver's pony cylinder regulator free flowed so the pony cylinder was turned off. As they felt the planned dive wasn't particularly deep or technically advanced, the buddy pair decided to continue the dive. The dive to 25m for 30 min was uneventful. At the agreed point to start the ascent one of the divers attempted to deploy an integrated cylinder fed DSMB but the cylinder was empty. Manual inflation of the DSMB was unsuccessful as the weight of

the DSMB's cylinder restricted its opening. Both divers continued to try to manually inflate the DSMB depleting their main air supplies. One of the divers then successfully deployed his own DSMB but the line parted so the buddy pair tried to deploy the cylinder fed DSMB again but this was unsuccessful. With depleted air supplies an ascent was started from 25m and continued with a saw tooth profile, possibly due to adverse currents, until 15m was reached. At this point one of the divers was very low on air and, as his pony cylinder was turned off, he took his buddy's AS. Positive contact was made but buoyancy control was lost and the pair descended back down to 20m before rapidly ascending to 2m where their ascent was stopped. Contact was maintained throughout and no causal factors were apparent except that a possible up-current had caused the initial loss of buoyancy. Having regained control at 2m, the divers descended down to 3m where they decided to complete their now controlled ascent but missing a 1 min stop at 6m and, possibly, a further precautionary stop following the rapid ascent. They were recovered by the dive boat and placed on oxygen and monitored. Back on shore they were taken to hospital for assessment where they were both found to be well, but they were advised not to dive again that day. Contact was also made with a hyperbaric chamber and their advice was a precautionary visit to the nearest recompression chamber as both divers were now experiencing tightness across the shoulders and one of them had a slight ache and stiffness in the left hand as well as tight leg muscles. As this involved a four hour drive and their symptoms were subsiding, a decision was made to monitor both divers overnight and seek treatment should their condition worsen. All symptoms resolved three to four hours after the dive with the only residual after-effect being a broken fingernail reported by one of the divers.

June 2013**13/090**

Two divers were completing a 24m wreck dive. The plan was to ascend the shotline or, if not returning to the shot, then a DSMB was to be used. One of the divers deployed her DSMB but the line jammed in the reel and in a panic she did not let go of the reel and was pulled to the surface from a depth of 21m. Her buddy made a controlled ascent after her but not realising she had been pulled to the surface and unable to locate her on the ascent, deployed her own DSMB at 12m and carried out a 3 min safety stop. The diver had been recovered to the dive boat and was under observation when her buddy surfaced. The diver showed no symptoms of DCI in the twenty four hours following the dive.

June 2013**13/327**

The casualty successfully completed a hovering skill at 5m and then the group proceeded on the tour part of the dive. The tour led the group over deeper water and the divers followed the route down to approx 18m. The casualty was seen signalling that she was cold and then she attempted to bolt to the surface. The instructor and divemaster made contact with the casualty and slowed her ascent. On the surface the rescue team were alerted; they recovered the divers and brought them to the shore. The casualty vomited and looked pale so the emergency services were called and she was transported by ambulance to hospital. She was checked and discharged with no treatment needed.

June 2013**13/253**

Portland MRCC received a call from a dive vessel reporting that a male diver had missed a stop following a dive in the Weymouth bay area. Medical advice was taken from the recompression chamber at Poole and the casualty kept under observation. No problems were experienced so the vessel returned to Portland and advice was given to the diver. (Coastguard report).

June 2013**13/149**

A buddy pair had descended down the shotline and on reaching the bottom at 32m, one of them experienced a regulator free flow. The dive was aborted and both divers made a rapid ascent to the surface. Oxygen was administered as a precaution to the diver who had experienced the free flow and advice given not to dive for twenty-four hours, do no heavy lifting and to drink plenty of water.

June 2013**13/330**

The casualty was part of a group conducting a deep dive. The group descended to 36m and then began viewing objects which were affected by the pressure change. During these exercises the casualty's regulator began to free flow. The casualty was given the instructor's regulator and the instructor switched to her alternate source. The casualty struggled to accept the regulator and couldn't clear it, so she began to panic and swim to the surface. The instructor held the regulator in the student's mouth but was unable to slow the ascent. On the surface the casualty was assisted out of the water and monitored for signs of DCI. The casualty mentioned that she had 'tingles' and so she was given oxygen. She had a consultation with the recompression chamber over the phone. It was decided that no further treatment was needed.

June 2013**13/143**

A diver using a full face mask and diving on a twin-set found it hard to breathe at 32m so removed the mask and went onto his buddy's AS. The pair ascended incurring a fast ascent warning. The diver was put on oxygen and taken to a first aid station. He recovered after forty-five minutes and left the dive site with an advice form.

June 2013**13/108**

A diver attempted to deploy a DSMB at 15m to start his ascent at the end of a wreck dive. The line from the reel became entangled in his glove's velcro wrist strap during inflation of the DSMB. The diver ascended rapidly to 9m before he was able to disentangle the strap from the line. He dumped air and tried to slow his ascent but was unable to maintain buoyancy for the planned 6m safety stop and continued to the surface at a slow rate. His computer had showed there were still 20 min of no stop time remaining at the start of the ascent and, although showing caution for a missed safety stop, displayed no other alarms or dive restrictions. The diver was recovered to the dive boat and put on oxygen for eight minutes as a precautionary measure but no symptoms of DCI were evident.

June 2013**13/144**

Two divers were at 34m when one of them experienced a regulator free flow. The buddy donated her octopus but had to hold it in place during a fast ascent. On shore the diver complained of 'tingling' in her right hand and felt a bit lightheaded and shaky. She was put on oxygen and the 'tingling' disappeared. Following oxygen treatment her arm felt 'heavy'. She had carried diving equipment some way from a car park to the diving entry point and, following contact with a hyperbaric chamber, was awaiting a duty doctor to call her direct.

June 2013**13/225**

Three divers conducted a dive to a maximum depth of 17m. After an uneventful dive one of the divers deployed her DSMB and the group began their ascent. At approximately 10m one of the divers was unable to locate the toggle for his dump valve and made a rapid ascent to the surface. The diver was recovered into the cover boat and was given oxygen to breathe as a precaution. His buddies ascended normally but cut short their safety stops and surfaced without problem and were recovered by the cover

boat. The boat returned to harbour and the diver's computer was checked for information on the depth from which he had ascended rapidly. The local recompression chamber was contacted for advice and they advised the diver continue on oxygen for 30 min and take plenty of fluids. They also advised that he be monitored for 24 hours for signs of DCI. No symptoms of DCI occurred but the diver refrained from diving again the next day.

June 2013**13/147**

A diver's weightbelt slipped off at 19m resulting in an uncontrolled ascent. The diver showed no symptoms but was put on oxygen as a precaution and advice given not to dive for at least twenty-four hours, no heavy lifting, no alcohol, tea or coffee and to drink lots of water.

July 2013**13/267**

Brixham MRCC were contacted by a dive boat reporting a diver having made a rapid ascent from a wreck dive, but was not displaying any signs or symptoms of DCI. The diver was taken ashore and transferred to a hyperbaric chamber for monitoring. (Coastguard report).

July 2013**13/333**

The casualty was on the surface with her buddy, who raised the alarm. The rescue team headed to the divers to find the casualty conscious but distressed and exhausted. The buddy claimed she had been unconscious when he surfaced, and that there had been a fast ascent to the surface. The rescuers placed the divers on the boat and took them back to shore where oxygen and first aid were administered. The casualty vomited several times and an ambulance was called. The casualty was checked in hospital and released the same day.

July 2013**13/270**

Portland MRCC tasked coastguard helicopter R-104 from Lee on Solent to airlift a diver who had missed decompression stops, from dive boat, approximately 9.5 miles SSW of the Needles. Following medical advice she was taken to Poole where a specialist dive doctor was waiting along with South Western Ambulance and Poole Coastguards. (Coastguard report).

July 2013**13/127**

A trainee diver had almost finished his training with one dive to complete. He and his instructor were diving from a RHIB on a wreck. It was the first dive of the year for the trainee and he was diving in a new drysuit. Everything appeared normal throughout but towards the end of the dive the trainee began to experience difficulties with his buoyancy. At 19m he became positively buoyant and began to ascend. The instructor was unable to reach him in time to assist and the trainee made a rapid ascent to the surface missing a planned 3 min safety stop at 6m. During the ascent the trainee continued to attempt to dump air from his drysuit all the way to the surface to stop his ascent but he remained calm and breathed normally throughout. On surfacing he signalled to and was recovered by the boat where he was immediately administered oxygen. The instructor surfaced a short time later. The Coastguard was contacted and patched the dive manager through to a hyperbaric unit who spoke to the trainee diver. The diver displayed no symptoms of DCI and after twenty minutes he came off the oxygen and the RHIB returned to shore. After speaking to the dive doctor again it was decided that the diver did not need to seek further medical attention but should not dive again for twenty-four hours. Over the following two days the diver experienced some mild 'pins and needles' and other discomfort in his limbs intermittently and contacted the dive doctor again. On examination at the hyperbaric unit he was given the all clear and his symptoms were not attributed to the diving incident.

August 2013**13/168**

An instructor was taking a student for their first open water dive to 8m. During the buddy check the instructor found the student's dump valve on his drysuit partially closed so opened it fully before starting the dive. The student had some problems getting below the surface despite dumping all the air from his suit and BCD so he was given an additional weight. Initially on the dive the student was struggling to find his balance but then began to get his buoyancy under control. The instructor and student remained very close to each other and, arriving at the planned turn around point, the instructor looked ahead to see where to go next. When he turned back to the student, he had disappeared. The instructor scanned the area for the student, for any bubbles and, with good visibility, checked up at the surface but could not see him. The instructor decided his only option was to surface and if the student was not there he would raise the alarm. On reaching the surface the instructor found the student who explained he had an uncontrolled ascent. He was having problems with buoyancy and had tried to release air from his suit but started to rise to the surface. The instructor checked the dump valve and found it closed. The student had no recollection of closing the valve but thought he might have done so in trying to open it wider to dump air. The student's computer was flashing 'slow' so the dive was aborted. The instructor monitored the student for several hours after the dive and he showed no ill effects.

August 2013**13/177**

A diver and his buddy planned a dive with a maximum depth of 12m as the buddy was using a drysuit which he had not long had but he had completed a drysuit training course a week earlier. The plan included the buddy deploying the DSMB at the end of the dive, which he had done before but wanted more practice. The dive proceeded with no problems and at 10m the buddy successfully deployed the DSMB. The divers began to ascend but the buddy lost control of his buoyancy and started to rise quickly. The diver grabbed the buddy, dumped all the air he could but they both ascended to 3m where they stopped before slowly rising to the surface. The buddy said he was alright and both divers were recovered into their dive RHIB and, as a precaution, the buddy was put on oxygen and the diver on nitrox 35, which was the next richest mix onboard. Back on shore the divers did not experience any problems but as a precaution the buddy went to a hyperbaric chamber. He was checked over and no problems were found but he was advised not to dive for a week.

August 2013**13/298**

Solent MRCC received a call from a dive boat reporting a diver onboard who had suffered a rapid ascent from 6m, but was not displaying any signs or symptoms of DCI. The dive boat returned ashore and medical advice provided by a dive doctor was for the diver to monitor their condition for any signs or symptoms. (Coastguard report).

September 2013**13/185**

Two divers on a wreck dive became separated and after a quick look around they both decided to surface. One of the divers deployed his DSMB and ascended normally. The other diver found that his DSMB reel was tangled so decided not to use it. He ascended normally up to 7m but dropped back down to 10m and then up to the surface in 40 sec. Both divers were recovered into their RHIB and the diver who had the fast ascent was put on oxygen as a precaution and given some water. His computer profile was checked and the Coastguard called. They patched the boat through to a diving doctor who was given all the details.

He advised that the diver come off the oxygen, which he had been on for forty minutes, and then be reassessed. As there were no symptoms the doctor advised monitoring the diver and that he should not dive for the next twenty-four hours. Back on shore the diver was checked again but no problems were evident.

September 2013**13/301**

Shetland MRCC was contacted by a dive boat reporting two divers onboard having made a rapid ascent after one of them lost their weightbelt. Neither was showing signs or symptoms of DCI, however, one of them was unwell. The boat returned to harbour and the diver was transferred by ambulance to hospital. (Coastguard report).

September 2013**13/187**

A diver entered the water without his weightbelt which had not been highlighted on the buddy check. The diver descended onto a wreck at 20m with no problems and continued with the dive. After about 20 min the diver began to feel buoyant and realised what the problem was. His buddy deployed a DSMB from 16m and as they started to ascend the diver lost buoyancy control and ascended to the surface next to the DSMB buoy. The buddy completed a safety stop and surfaced shortly after. The diver was recovered into the dive boat and put on oxygen for forty minutes. He reported feeling fine throughout and had no symptoms after coming off the oxygen.

September 2013**13/308**

Solent MRCC received a call from a dive boat requesting medical advice for a diver who had suffered a rapid ascent, but was not showing any signs or symptoms of DCI. A radio link call was provided with a dive doctor and their advice was to place the diver on oxygen, monitor their condition and transfer to hospital for assessment on return to shore. (Coastguard report).

September 2013**13/309**

Milford Haven MRCC was contacted by a dive boat requesting medical advice for a diver who had missed a decompression stop, but was not displaying any signs or symptoms of DCI. The medical advice was to place the diver on oxygen, keep hydrated and maintain contact with the dive doctor for the following 12 hours as a precaution. Dale CRT met the boat on return to harbour to gather details on the incident. (Coastguard report).

September 2013**13/214**

A group of divers descended down a line to 27m where they practised a series of skills. They ascended up the shotline to 15m at which point they had been diving for 10 min. They then moved away from the line in order to conduct an exploratory dive and adjust their buoyancy. As they all swam forward the one diver lost control of his buoyancy and ascended, then the instructor saw him descend back to the group. The diver indicated he had ascended to 7m and then come back down. They continued diving at 12m, made a safety stop and then surfaced. The diver said he had made a rapid ascent so he was monitored for any signs of DCI. Staff at the site called the hyperbaric centre who said they wanted to examine the casualty. The diver was airlifted to the chamber. The hyperbaric doctor said that the diver was clear of any DCI however he advised that he had high blood pressure which needs to be checked by his GP.

Technique Incidents

October 2012

13/005

A diver and his buddy were travelling to a wreck dive site when the charter boat skipper alerted the group that another boat was heading for the same site. After a briefing from the skipper the pair, along with other divers on the boat, began kitting up. Others onboard checked the buddy's kit and the diver conducted his own check, he had a main cylinder and a pony cylinder. Surface conditions were rough and all divers had to use the handrails and stanchions to steady themselves whilst moving to the entry point. On approaching the shotline the pair entered the water and swam to the shotline and descended. Once at the bottom of the shot the pair exchanged OK signals and swam off to explore the rear gun under the stern at a depth of 37m. After viewing and photographing the gun the diver suddenly felt his regulator tighten and become difficult to breathe. The diver looked for his pony regulator but could not locate it and on turning around could not locate his buddy. He could see another diver at the limit of visibility but could not easily discern an alternate source. The diver decided to make a free ascent believing he would get a couple of additional breaths during the ascent. The diver initially swam backwards to move out from under the stern section and then finned hard for the surface. On regaining the surface the diver signalled the nearest boat to recover him and on recovery was described as "grey and hypoxic" and was placed on oxygen and given a hot drink. After a few minutes on oxygen the diver's colour returned and he was able to jump back into the water to be recovered by his own charter boat. On inspection it was discovered that the diver had been breathing from his pony cylinder and had run out of gas after a dive duration of 9 min at a maximum depth of 37m. The pony cylinder had contained nitrox 30.

February 2013

13/033

A diver's SMB was said to have been cut by his own support boat while he was underwater. The line, attached from the diver to the marker buoy had initially wrapped itself round a crab pot buoy line. The support boat went to untangle it but the line got dragged under the vessel and was either caught by the boat's prop or it snapped. The diver was unaware of what had happened until he was about 2m from the surface and was ready to deploy another marker buoy that he carried with him. He surfaced and was recovered to another boat that had been sent to the scene. (Media report).

March 2013

13/096

A diver was on his second sea dive having completed a rebreather course. At the end of the dive the diver prepared to deploy the DSMB for the buddy pair to ascend. The self inflating DSMB had been used on the diver's first dive but with the A-clamp not compatible for filling the DSMB cylinder from his DIN stage cylinder, the diver planned to inflate the DSMB from one of his alternate air sources. The diver chose to inflate the DSMB with his auto-air which was fed from the 3 lt diluent cylinder, which had been partially used during the previous dive. Consequently, shortly after deploying the DSMB the diver found there was nothing to breathe in his CCR loop. The diver bailed out to the auto-air and found exactly the same so bailed out onto his stage cylinder. The buddy checked the diluent gauge and it was reading empty. He tried to inflate the diver's drysuit but not hearing any inflation noise, carried out a controlled buoyant lift.

April 2013

13/180

Two divers planned a dive to complete a number of assessments, air sharing, DSMB deployment, use of SMB and a surface tow. All went to plan apart from a drysuit hose

connector becoming disconnected but which did not appear to be leaking and, as the diver had sufficient air in her suit for the depth, she did not try to reconnect it. On the ascent at about 14m the diver took her buddy's octopus indicating she was out of air. The divers continued to ascend completing appropriate stops. On the surface the diver orally inflated her BCD and completed the planned rescue tow to the shore.

April 2013

13/142

A diver was completing the last dive of a training course. He and his buddy had descended to 20m but the diver was overweighted, began to breathe fast and started to take in water. The diver made the decision to go to the surface. Once ashore the diver was checked over and all appeared well.

April 2013

13/068

An assistant instructor and his trainee were planning to carry out a drysuit inversion exercise and AS ascents. On initial entry there was a problem with the trainee's loose weightbelt and unable to adjust this on the surface, the divers exited the water where the surface cover resolved the problem. The divers re-entered the water and descended to a 4m platform to carry out the inversion exercise. The trainee's weightbelt became loose again but the instructor managed to reposition and tighten it and the inversion exercise was carried out with no problems. The pair then moved away from the platform to around 6m to begin the AS ascent exercises but the trainee immediately descended to 14m. The instructor followed him down and found the trainee who was having trouble controlling buoyancy with his BCD. The pair started to ascend and at around 8m they drifted towards a rock face. As the trainee was still having difficulty with his buoyancy the instructor pushed him into the rocks to stabilise him and sort out the problem. The trainee's waist band had become unclipped, probably during the earlier problems. The instructor re-clipped the waist band and the pair stopped for a few moments to calm down and check if they were alright and either carry on or abort the dive. The divers then moved away from the rock face and ascended to 6m in order to start the AS exercise but the trainee carried on upwards and surfaced. The instructor also surfaced, asked if the trainee was OK to carry on and they both re-descended to 6m but the trainee continued down to 10m. When the instructor caught up with him, the buddy signalled OK and they ascended to 6m again to start the AS exercise. The instructor decided to be the receiver so as to have some control on the ascent but, even when dumping all the air from his own BCD, the ascent became quicker and quicker. Back at the surface the instructor decided to try the exercise the other way round with him as the donor of his AS to the trainee as he felt he would be more in control. The pair re-descended to 6m and began the exercise but, despite the instructor putting air in his own BCD, they continued to descend. The instructor did not want to let go of his trainee because he felt he would continue on downwards and he was unsure of the depth beneath them. They levelled off at around 13m and, with the instructor's BCD now full, they began to gradually ascend. Despite venting all the air from his BCD and drysuit, the instructor and trainee were still ascending. The instructor then noticed that his AS was not in the trainee's mouth so he grabbed the trainee's primary regulator and put it up to his mouth. The trainee initially pushed it away and the instructor tried again whilst considering releasing the trainee's weightbelt and sending him to the surface. The trainee took the regulator and the divers surfaced. The instructor inflated the trainee's BCD to find there was already air in it. The trainee coughed for a couple of minutes and the divers aborted any more diving and exited the water. The trainee calmed down and didn't exhibit any ill effects.

May 2013**13/148**

At 3m on his ascent a diver lost control of his BCD; he was unable to inflate it and was struggling to maintain buoyancy. The diver dropped his weight and inflated his drysuit to help him get to and stay on the surface. He called for assistance and was picked up by a rescue boat. The diver experienced dizziness so oxygen first aid was administered as a precaution. It was subsequently discovered that the BCD inflation hose was not connected.

June 2013**13/098**

Three divers were diving together. The aim of the dive was to introduce the less experienced diver of the three to UK diving. The plan was to descend to a 6m shelf, allow the less experienced diver to familiarise himself with the visibility etc. and, if all was good, to then move down to a 20m shelf. They would spend a short amount of time there before returning to 6m to carry out a practice mask removal and refit and a safety stop. The divers descended to 6m and after checking that the less experienced diver was happy, the group gradually descended to 20m. Frequent signals passed between the group

that all was well and although the visibility was poor, the divers remained together. After approximately 5 min the less experienced diver suddenly stopped moving and began to frantically gesture that he wanted to return to the surface. Immediately the senior diver in the group made positive contact with the diver and ensuring that the third diver was aware of the situation, she signalled that the group ascend. At this point the third diver deployed his DSMB to ensure a point of reference for the group. The less experienced diver was clearly panicking and unable to operate his equipment safely so the senior diver performed a controlled buoyant lift. At around 10m, the diver began to calm down and, while still maintaining control of him, the senior diver decided it would be safe to complete a safety stop at 6m. A 3 min safety stop was completed and all three divers surfaced and swam to their exit point. The less experienced diver believed the onset of his panic attack was most probably a result of the thermocline he felt and a rush of cold water into his gloves which led to a noticeable increase in his breathing rate. He also believed he was suffering from narcosis.

Equipment Incidents

January 2013

13/024

During a dive to 35m a diver experienced a regulator free flow. The diver alerted his buddy to the problem whilst trying to clear the free flow but was unsuccessful resulting in an emptying of his main cylinder. He switched to his pony regulator and he and his buddy conducted a controlled ascent. On the 3 min safety stop at 6m the pony began to run out of air so the diver switched to the buddy's AS and they completed the safety stop and ascended to the surface where he manually inflated his BCD and exited the water.

February 2013

13/029

An instructor and student entered the water for the student's final qualifying dive in a quarry with very cold fresh water of 5 deg C. Shortly after the start of the dive at a depth of 4m the student's regulator began to free flow. The free flow could not be stopped and the instructor provided her octopus and the pair made an AS ascent to the surface without further incident. The additional bubbles were noted by the surface cover and support divers swam out to offer assistance but none was required.

February 2013

13/203

A diver and his buddy had completed a 21m dive so the diver could check out weighting with his new kit configuration using twin independently run 10 lt cylinders and practise switching regulators. The air temperature was 1 deg C, it was snowing and the water temperature was 4 deg C. After a surface interval of one and three quarter hours, the second dive to 21m went according to plan. At approximately 12 min into the dive and at about 20m, the diver carried out a regulator switch which was successful but the removed regulator started to free flow. The diver, breathing normally from his second cylinder, tried to stop the free flow by purging, banging and turning the regulator upside-down and then trying to breathe from it but choked on a mouthful of water. The buddy offered his octopus but the diver pointed to the working regulator in mouth, showed him the free flow cylinder contents and gave the OK signal although he was coughing and spluttering. While trying to resolve the problem both divers had begun to ascend slightly so the diver gave his buddy the 'up' signal to terminate the dive. They both made a normal ascent to 6m by which time the regulator had stopped free flowing with the cylinder contents gauge reading empty. They carried out a 4 min safety stop at 6m and ascended where the diver provided surface buoyancy using his drysuit feed as the BCD feed was run from the now empty cylinder. He orally inflated his BCD and the divers exited the water with no further problems.

February 2013

13/202

Three divers had planned a shore dive with a gradual descent to 20m. The water temperature was 4 deg C. One of the divers had replaced his own regulator, which had a small constant flow, for a club one. He was diving twin independent 12 lt cylinders with 150 bar in the right hand cylinder and 180 bar in the left. The club regulator was fitted to the right hand cylinder, which out of habit, the diver used for the start of the dive. On the descent and at about 6m the diver realised he was using the cylinder with the least amount of air and decided to switch but the regulator began to free flow. The diver tried to resolve the problem but continued to breathe off the free flowing regulator. Although his two buddies were in sight they were not in immediate reach so the diver ascended. On the surface the diver swam back to the dive manager who shut off the free flowing cylinder. The buddies, realising the diver had ascended, had finned back and were below him and he signalled to them not to surface. With 180 bar in the left cylinder the diver opted to

continue the dive and descended to re-join his buddies. He controlled his buoyancy using his BCD which was fed by the left cylinder as his drysuit feed was configured to run from the now shut off right cylinder. At 20m the suit squeeze was quite uncomfortable but the diver was more concerned with the restriction of movement. He signalled to one of his buddies to partially open the right hand cylinder valve and the system repressurised without causing a free flow. The dive continued without further incident.

April 2013

13/093

Three divers were planning a dive to 30m. Two of the divers had single cylinders with primary and octopus second stages and one had an independent pony cylinder. The divers descended down the shotline but almost immediately upon arriving at the bottom of the shot, one of the diver's primary second stage began to free flow causing her to switch to her octopus. One of her buddies noticed this and offered his octopus which she took and he tried for a short time to stop the free flow but to no avail. The diver and buddy prepared to ascend together and, in preparation, the buddy looked over to the third diver only to notice that he was having the same problem with a regulator free flow causing him to switch to his octopus. The buddy offered the third diver his pony regulator which he took. All three divers ascended close together up the shotline to the surface without incident. On reaching the surface, both the divers who had free flowing regulators had less than 30 bar remaining in their cylinders.

May 2013

13/074

Two divers were practising mid water DSMB deployment using the AS run from one of the diver's first stage. Having inflated the DSMB successfully, the AS free flowed. Unable to stop it the diver switched to his buddy's AS which was run from a pony cylinder. The buddy switched off the diver's air supply to stop the free flow but when the supply was turned on again the regulator continued to free flow. The buddy switched off the supply and the divers made a controlled ascent including a 3 min safety stop at 6m. On the surface the buddy supported the diver whilst restoring his air supply to allow BCD inflation. The free flow did not restart as the air supply was restored. The incident was put down to cold water, which was about 5 deg C.

May 2013

13/062

An instructor and two students were performing mask clearing exercises. As one of the students removed his mask his regulator went into free flow. Unable to replace his mask and in the panic that ensued, the student removed his regulator because he thought he was inhaling water and tried to ascend to the surface. The instructor prevented the ascent and pushed the free flowing regulator back into the student's mouth. The instructor could not locate the student's octopus regulator and by this time the student was desperate to reach the surface. The instructor maintained the hold on the free flowing regulator in the student's mouth and conducted a controlled buoyant lift to the surface. On the surface and with the student's BCD inflated, help was summoned. A rescue boat arrived and recovered all the divers, the second student having made his way safely to the surface. On shore oxygen was given but it became apparent that the student had not inspired water and, apart from the shock of the incident, had not suffered injury.

May 2013

13/083

Following exit from a wreck penetration dive, a diver noticed panic in his buddy's eyes. The buddy grabbed the diver's pony cylinder AS and, from the mass of bubbles around the pair, the

diver presumed the buddy had experienced a free flow and was out of air. The diver tried to calm the buddy down but, as the buddy was very unsettled, began an AS ascent and they reached the surface without further incident. The diver ensured the buddy was buoyant and attempted to get him to lie back and relax but the buddy would not let go of the diver and was using him to lift himself out of the water. The diver's pony AS had run out of gas and the buddy would not take the diver's octopus regulator. The buddy kept saying he was tired and could not fin so the diver attempted to turn him to start a tow to the shore. The buddy continued to hold on fighting the attempts of a tow and preventing the diver from finning effectively. At this point the diver signalled for help which arrived very quickly. The divers were taken ashore and the buddy assessed during which he remembered he had 'lost' his regulator when following the diver out of the wreck when the diver's fin had brushed it from his mouth. The buddy was monitored for the rest of the day and for the following thirty-six hours.

June 2013

13/099

Two divers were coming towards the end of their dive and returning to their exit point when one of the divers started to ascend rapidly but managed to grab hold of part of an underwater construction. His buddy immediately moved closer to the diver and saw the cause of the problem. The diver's weightbelt had come off and was lying on the bottom next to him. As the diver was unable to recover or fit the belt on his own, the buddy went to assist but it was awkward with the diver in a vertical position. The buddy placed the belt between the diver and his cylinder and rolled the diver on his back as the weight was holding him down albeit around the cylinder rather than his waist. The buddy then straddled the diver's legs to hold him steady and refitted the belt correctly and securely. Once the belt was re-fitted, the diver regained his normal attitude, calmed his breathing and signalled OK. The divers decided to abort the dive using the shotline attached to the underwater construction. Once they surfaced they swam back to their exit point.

July 2013

13/119

Two trainee divers were on their first open water lesson and one of them, who had always been somewhat anxious during training but was very enthusiastic, had hired equipment from the local dive centre, including a drysuit. Because he was hiring, the trainee had not had an opportunity to use a drysuit in a pool. The hired suit accommodated his height and foot size but, as the trainee was very slim, there was a lot of extra material around his waist and upper body. Both trainees and the instructor kitted up and entered the water to chest depth to carry out weight checks assisted by another instructor carrying weights to the group. The trainee with the hired suit was having difficulty getting all the air out and because of this was becoming increasingly anxious. At this point another group of divers arrived nearby and one of their instructors, who was on the shore, began commenting in a loud voice to his group that the trainee needed to dump air from his suit. This was clearly audible to the trainee having difficulty and he later reported that this had added to his anxiety. At this point the instructor, who had been helping with the weight check, kitted up and took care of the trainee who was having difficulties, leaving his fellow instructor to dive with the other trainee. The trainee in the large drysuit was then able to dump all the air to a point where he

complained it felt very tight but he was still unable to get underwater. He removed his weightbelt to add more weight and put it back on but a passing member of the dive centre staff, who had been working in a nearby safety boat came over and pointed out, very assertively, that the trainee's weightbelt had been put on 'left handed' and it should be 'right handed'. The staff member then engaged in a long and somewhat aggressive discussion as to why the trainee had not been taught to have his weightbelt 'right handed' and that he required it to be that way because, if he had to rescue the trainee, he would need it to be positioned that way so he was able to remove it. Other groups of divers nearby then added to the discussion pointing out that it was possible to remove a weightbelt regardless of which way it was fastened. The trainee, clearly upset by all of this, removed and refitted his weightbelt. He and his instructor then descended to 2m to begin some exercises but the trainee immediately gave the 'up' signal and they both made a controlled ascent to the surface. On the surface the trainee removed his regulator and began shouting 'Help, I can't breathe'. The instructor made him buoyant by inflating his BCD but did not remove the weightbelt as the trainee's head was well clear of the water. The trainee kept shouting for help and the rescue boat came to his assistance, de-kitted him in the water and recovered him into the boat where he became calmer and denied any other problems. The trainee later reported that he had felt anxious about his first dive and the involvement of all the other divers while he was having difficulty did not help. He also felt his drysuit was tight and he was unable to get his breath. The trainee decided not to dive again that day but has since gone back to the pool to refresh his skills and intends to complete his training.

July 2013

13/115

An instructor and his trainee were practising neutral buoyancy when the student lost a fin. The student dropped 2-3m, experienced ear pain and became distressed so the instructor recovered her to the surface using a controlled buoyant lift. On the surface the student was towed to shore and subsequently recovered.

August 2013

13/226

A group of three divers descended to a wreck and reached a maximum depth of 35m. The lead diver located a large cavernous space in the wreck and signalled the others to follow her into it. One diver followed but the other remained outside and was observed waving his torch. The lead diver swam towards him and he signalled he was unhappy and wanted to ascend. He signalled that his regulator was free flowing and had switched to his 3 lt pony supply. The lead diver offered him her octopus from her twin 10 lt cylinders and he switched to this supply and the group swam back to the shotline which was approximately 40m away. After a dive time of 6 min the group started to ascend at a normal rate although the lead diver's computer started to signal a fast ascent alert at 11m and added a 1 min stop as a consequence. The group slowed and they paused for 1 min before continuing the ascent. At 6m the lead diver swapped the diver onto her nitrox 80 decompression gas for increased safety and the group conducted a 2 min safety stop and surfaced safely after a total dive time of 15 min.

Miscellaneous Incidents

October 2012

13/230

Brixham Coastguard tasked Teignmouth inshore lifeboat and Torbay Coastguard to a report from a concerned father of two divers at Babbacombe who had not been seen for 15 min. However the two divers surfaced without any distress or injury before units got on scene. No further action taken after confirmation from the father that both divers were alright. FAWGI (False alarm good intent). (Coastguard report).

November 2012

13/234

Solent coastguard received a report of two divers 'in frogman suits one with green tank one with grey tank, using spear guns with their tanks'. The informant believed it to be illegal and they had just entered the water. (Not illegal, but due care must be observed). (Coastguard report).

January 2013

13/236

Falmouth MRCC, tasked Falmouth coast rescue team, Falmouth RNLI Inshore lifeboat and RN rescue helicopter R193 after a report of divers in difficulty off Gyllingvase beach, Falmouth. The divers were apparently giving the diver in distress signal and one was possibly missing from the party. It was established by the Coastguards arriving on scene that nobody was in danger. There had been a misunderstanding of signals. (Coastguard & RNLI reports).

May 2013

13/246

Falmouth MRCC passed a personal locator beacon (PLB) alert to Stornoway MRCC for action, the PLB (406 beacon) was attributed to a diver onboard a dive boat in Loch Aline. The vessel was contacted and following a search of the vessel confirmed that the PLB was onboard but divers were safely ashore. (Coastguard report).

June 2013

13/255

Belfast MRCC received multiple 999 calls reporting a party of divers waving for help off Wemyss Bay, Firth of Clyde. Largs lifeboat, Largs CRT and Rescue 100 were tasked. Divers made shore unaided and link call established to dive doctor. Subsequently one diver transferred to Inverclyde A&E for assessment. (Coastguard & RNLI reports).

June 2013

13/313

Lifeboat launched to assist diver. False alarm. (RNLI report).

July 2013

13/273

MRCC Dover received a 999 call from a shore contact reporting a dive boat with three persons onboard, overdue returning from their dive, 10 min after the initial call was received the informant called back to confirm they had now returned safely ashore. (Coastguard report).

July 2013

13/120

A group of divers noticed that there was a large number of lobsters at the dive site; most of the lobsters were quite young

and aggressive. One of the group was diving with his buddy and watching one of these lobsters fairly closely when the lobster attached itself to the hose of his second stage. The result was that the diver could not get any air so switched to his pony until his buddy managed to prise the lobster off the hose and allow the diver to switch back to breathing from his main cylinder.

July 2013

13/138

After a 60 min dive to 12m, a rebreather diver deployed her DSMB and together with her buddy ascended to 6m for a 3 min safety stop. After about a minute the diver found herself slowly floating towards the surface away from her buddy for no apparent reason. She had not added gas to her drysuit nor moved position. She tried to dump all the air from her suit but this made no difference and she looked up to see if the DSMB line had snagged or got caught on something although no other lines were visible near the divers. On looking up she found the problem immediately. A seal had decided to roll himself up in the DSMB line and every turn it took pulled the diver towards the surface. The diver attempted to untie him but the seal seemed to think this was a game and rolled itself up even more. After about thirty seconds the seal unrolled itself, swam up and tried to eat the DSMB instead. The diver reeled in the extra line she had reeled out to counteract the seal's rolling but it came back down, bit the line and rolled itself in it again. The diver released line as the seal rolled so as not to endanger either of them and the seal then unrolled itself and swam off.

July 2013

13/283

Solent MRCC was made aware of a dive boat that was reported as overdue by their dive officer. While details were being taken the dive officer advised he had received a text message reporting them safe and well back in harbour. FAGI. (Coastguard report).

August 2013

13/288

Humber MRCC tasked Redcar ILB and Redcar CRT to investigate a report of a diver who appeared to have been submerged about an hour from a boat close inshore. The diver found to be in no need of assistance. (Coastguard & RNLI reports).

August 2013

13/165

Portland MRCC received a 999 call from a fisherman ashore that they had seen a single diver with twin cylinders entering the water as it was getting dark but had not seen them exit. Portland Bill CRT proceeded to investigate and a fisherman further along the shore confirmed the diver had exited the water. (Coastguard report).

September 2013

13/304

Brixham MRCC took a 999 call reporting three divers in the water shouting for assistance. A RHIB proceeded to investigate and Plymouth ILB investigated and found the divers safe and well. (Coastguard & RNLI reports).

Overseas Incidents

Fatalities

October 2012

13/212

A diver gave the 'up' signal to her buddy having just descended onto a 25m wreck. The divers began a gradual ascent but halfway up, the diver became motionless. The buddy lifted the diver to the surface quickly and, at 6m, the diver's regulator fell out. On the surface the diver was unconscious so the buddy dumped dive kit and towed the diver to shore. CPR was administered and the diver evacuated to hospital but she did not recover and was declared deceased. A coroner's inquest is reported to have stated that the cause of death was barotrauma. (Media report).

March 2013

13/038

A group of divers on a liveaboard were diving from two inflatables. One group were about to commence their dive when they received a call over the radio regarding a missing diver who had suddenly disappeared from the surface. A surface search was carried out for about fifteen minutes looking for bubbles to try and locate the diver. Although kitted up and ready to assist in an underwater search, the divers were returned to the liveaboard. The expedition dive guides carried out an underwater search and found the missing diver unconscious at a depth of 5m. Following recovery from the water and after eighty-five minutes of CPR and medical attention by the ship's doctor the diver was pronounced dead.

May 2013

13/097

A diver was on a guided tour in a group of five led by a dive instructor. About 16 min into the dive and at 20m on the ascent, the instructor noticed the diver motionless in the water. The instructor got hold of the diver and not getting any reaction began to ascend with him. As soon as this happened the diver suddenly started to swim hard towards the surface and pulled his regulator from his mouth. The instructor tried to push the regulator back to the diver but he pushed it away and the pair made a rapid ascent to the surface. On the surface the diver was assessed by the instructor and was found not to be breathing and foaming from the mouth. The instructor summoned help and administered rescue breaths while towing the diver to the shore. Three other divers from the shore jumped in and assisted in getting the diver out of the water. CPR was administered by three staff from a local hospital who happened to be on the site and an ambulance had already been called. The ambulance arrived and although the diver appeared to be breathing with a weak pulse he never regained consciousness. He was declared dead after forty-five minutes.

May 2013

13/076

A diver was reported to have been diving a deep wreck at around 90m using a rebreather when he got into difficulties. The diver surfaced unconscious and resuscitation attempts were made but he did not recover. (Media report).

June 2013

13/101

A rebreather diver entered the water along with a second rebreather diver for a wreck dive. Both descended the shotline when the first rebreather diver apparently began to sink rapidly and overtook the other diver, who thought it was fast but decided it was just the diver's way of descending. After a couple of minutes the second diver arrived on the wreck and spotted the other diver lying on his back in the base of a hold in 45m apparently having fallen or descended straight down into the hold. The second diver found the diver's loop was not in his

mouth, he was unresponsive and did not accept a bailout regulator. The diver carried out an immediate lift to the surface where the distressed diver was recovered to the boat. CPR was commenced by the crew and other divers aboard. A Coastguard helicopter airlifted the diver to hospital but he was declared dead on arrival.

August 2013

13/153

A diver died whilst snorkelling during an expedition. Having completed a dive, the diver joined a group of five others for a swim and snorkel on a shallow reef. The diver was reported to have surfaced normally following a snorkel dive but was then seen to disappear below the surface very shortly afterwards. The diver was clearly visible from the surface on the reef below but, despite frantic efforts, was unable to be reached by the group using snorkelling equipment. The diver was recovered by divers but, despite CPR at the surface to arrival at hospital, failed to regain consciousness and was pronounced dead.

Decompression Illness

October 2012

13/021

Following a second dive on a holiday liveaboard, a diver exhibited a rash accompanied by skin looking like 'bubble wrap' over the abdomen and on his right hand side. As a skin DCI was suspected first aid oxygen was administered together with fluids. The rash became less prominent and the 'bubble wrap' skin returned to normal. A recompression chamber was contacted. Although options for a faster transfer were available, the advising chamber felt that given the reduction in symptoms and first aid provision available on the boat, this was not necessary and arrangements were made for transfer to a hyperbaric unit for a consultation the following evening. The diver was recompressed the following evening and a skin DCI was diagnosed with a suspect subcutaneous emphysema, although this was longer symptomatic. Following return visits for check ups, the diver was advised he was fit to fly and return to the UK.

October 2012

13/013

A diver started a dive on a wreck with a 15 lt cylinder and 7 lt sling cylinder. He descended with his buddy to the wreck and reached a maximum depth of 28m. The dive proceeded without incident until the pair returned to the shotline to start their ascent. During the ascent the diver was in a horizontal position possibly due to the weight of the sling cylinder and as a result the diver was unable to get air out of the legs of his drysuit. He made a feet first, fast ascent direct to the surface missing 1 min of required decompression stops and 3 min safety stops with a total dive time of 30 min. On recovery into the boat the diver was placed on oxygen but no symptoms were evident. Two days after the incident the diver experienced pains in his muscles and at the site of previous injuries. The diver was referred to a recompression chamber where he received treatment.

November 2012

13/014

A group of divers conducted a chamber dive to a maximum depth of 57m as an educational experience including tests for the effects of narcosis. The dive was for a total duration of 60 min including decompression stops at 15, 12, 9, 6 and 3m for a total of 32 min. After completion of the dive and leaving the chamber one diver experienced an itching and burning sensation around her left shoulder. Around five hours later the diver experienced a red rash on her left shoulder and the area around

it was warm and painful under the skin. The next day the red skin had disappeared but the pain in the shoulder joints persisted. A week after the original chamber dive the diver received a recompression treatment with hyperbaric oxygen therapy. The others in the group experienced no adverse effects.

November 2012 13/015

A group of divers conducted a chamber dive to a maximum depth of 57m as an educational experience including tests for the effects of narcosis. The dive was for a total duration of 60 min including decompression stops at 15, 12, 9, 6 and 3m for a total of 32 min. During the final ascent from the 3m stop one of the divers in the chamber started to experience itching under his arms, tinnitus in his left ear and on leaving the chamber experienced dizziness. A doctor provided antihistamine for the itchiness and checked his ears and balance. The diver's left eardrum seemed to be irritated. The diver was recompressed with oxygen to 14m for two hours and experienced an initial worsening of the dizziness but this almost disappeared by the end of the second hour although the tinnitus remained. A subsequent visit to a ENT specialist indicated no clear issues. The diver has been referred for a PFO investigation. Two other divers in the group experienced itching at 3m and this became more intense on surfacing. The chamber doctor provided antihistamines for the itching. One diver took them and his symptoms disappeared the same evening. The other diver did not take the drugs and his itching did not disappear until the next day. The others in the group experienced no adverse effects.

March 2013 13/129

On the first dive of the second day on a dive trip abroad and half way through the dive, a diver felt slightly dizzy at 24m but this passed fairly quickly. The rest of the dive was uneventful with no fast ascent or missed decompression stops. On surfacing the diver was holding onto the bow line of the dive RHIB which jerked his left arm so hard he let go. Back on shore the diver assisted with removing kit from the RHIB and returned to the dive centre for lunch. After lunch he noticed that he had a skin rash and felt itchy. One of the dive guides, being an operator at a local private hyperbaric chamber, recommended the diver be checked out at a local clinic. The diver was seen by a doctor who diagnosed DCI and the diver was transferred to the chamber and received recompression treatment, followed by a second treatment the following morning. On return to the UK the diver saw a diving doctor who restricted his diving to a maximum of 20m and recommended a PFO test which the diver was still awaiting.

April 2013 13/124

A diver had completed a diving holiday with thirteen dives over five days. On Saturday, the last day of the holiday, and four to five hours after completing the last dive, the diver experienced pain in her right shoulder. She thought she might have strained a muscle in her neck and took painkillers. On returning home the pain got steadily worse until the Tuesday evening when the pain intensified. The diver went to her doctor who referred her to hospital and they eventually referred her to a hyperbaric chamber. The diver was diagnosed with DCI and had three sessions of recompression treatment and was expected to make a full recovery. Although the dive profiles were not abnormal the fact that the diver had done thirteen dives over five days is thought to have contributed to her suffering DCI.

April 2013 13/053

On the last day of diving on a trip overseas and at the Saturday evening BBQ, a diver turned round quickly to look over her shoulder and became dizzy. She put this down to drinks having quickly gone to her head. The following morning she still felt a bit dizzy as if she was still slightly drunk but assumed this was a

hangover and felt fine after more sleep. Later that day she thought her arm felt a bit strange but no pain or 'pins and needles', just a bit uncomfortable. Two days later and now back home in the UK, the diver felt very tired and a bit 'spaced out' but thought it was due to a late night after getting back from the trip and an early start the next morning for work. The rest of the week followed with early mornings and late nights but over the weekend the diver, when turning her head to look over her shoulder felt dizzy. Two days later her arm was still feeling strange, was also a bit weak and she started feeling aching and discomfort in her shoulder. The diver called a hyperbaric chamber for advice and they said it sounded like DCI and that she should go in for a check up the following day. The chamber diagnosed a probable DCI and the diver was given a couple of sessions of recompression treatment and the symptoms resolved.

April 2013 13/223

A diver had conducted at least two dives the previous day the last, after a surface interval of 2 hours, to a maximum depth of 40m for a total duration of 40 min including 6 min of stops. The following day he conducted two dives; the first to 37m for 41 min including a 6 min stop and, after a surface interval of 1 hr 20 min, to 39m for 47 min including stops of 3 min at 9m and 6 min at 6m. The diver used twin 12 lt cylinders with nitrox 28 and a 7 lt stage with nitrox 50 for decompression. All dives were uneventful. On surfacing from the final dive the diver experienced a slight cough but thought nothing of it. Once back on shore the diver unloaded his equipment from the boat into the dive centre vehicles and felt a bit of a strain in his arms which he attributed to carrying the heavy twin-set. As the diver was travelling back to the dive centre he began to feel a tightness in his chest. The group arrived back at the dive centre approximately an hour after surfacing and the diver noticed what appeared to be bruising on his biceps. After visiting the toilet the diver looked in the mirror and noticed that his chest was covered in a marbled rash. The diver requested oxygen but there was none available and so he breathed from his nitrox 50 stage cylinder. The diver was driven to a local chamber where he was recompressed with three treatments over three days of 6 hr, 3 hr and 3 hr respectively. On returning to the UK the diver was tested and found to have PFO and has had an operation to close it. He was advised to refrain from diving for 9 - 12 months and to have further tests.

August 2013 13/222

After completing three dives the previous day a diver conducted dives of 40m for 30 min, 31m for 38 min and 36m for 27 min including a 3 min stop at 5m. Approximately 40 min after surfacing from the third dive the diver noticed an itchy bluish rash on his abdomen. The diver attended a recompression facility and was recompressed.

August 2013 13/183

Two rebreather divers were the second wave of a group of four. They waited in the dive boat for about ninety minutes whilst the first pair were in the water. The air temperature was 37 deg C, the humidity was high but they were in shade. Their dive plan was 35m for 90 min which they carried out with 60 min bottom time followed by a slow ascent over 35 min of decompression. There was some current on the dive but no over-exertion and nothing else to give cause for concern. Having surfaced one of the divers stowed his kit and then jumped back into the water briefly to cool down. On reboarding the boat he pulled in his decompression cylinder from a boat line where he had placed it on finishing his dive to make entering the boat with his CCR unit easier. It was at this point that he felt himself go weak and he became unwell. He was quickly transferred to the shady area of the boat, laid down and put on oxygen, which was maintained for the whole of the two hour journey back to a marina and waiting

ambulance. During the journey the diver had a rapid heartbeat, shallow breathing, some skin rash, grey and cold skin, very mild double vision, extreme fatigue and he felt nauseous. On arrival at the marina the diver was attended to by paramedics and transferred by ambulance to hospital and then to a hyperbaric chamber where he received recompression treatment. He was kept under observation in hospital overnight and released the following morning with some residual symptoms which disappeared over the next couple of days. The diver has been using an air diluent and a set point of 1.3 bar.

Illness / Injury

April 2013 **13/050**

A diver on a dive trip abroad became faint and was dry retching on a RHIB whilst waiting to dive. It was accepted that the diver had been kitted up in her drysuit and BCD for a prolonged period of time. The general principal at this location is that a diver should not be fully kitted for a period in excess of twenty minutes due to concerns of over-heating and effects of circulation restriction. The diver was returned to shore and de-kitted and although oxygen was being sourced it was clear the problem was over-heating and circulation restriction which had led to the fainting spell. The diver was taken to a medical centre and when the oxygen arrived she was given a little to help clear her head and then took on fluids. Within about thirty minutes the diver appeared to be much better and when checked later that evening she seemed fully recovered. She was monitored over the rest of the trip but there were no repercussions.

May 2013 **13/197**

A diver reported that he had a headache approximately ninety minutes after surfacing from a 10m dive for 37 min. The air temperature was 30 deg C and the sea temperature 20 deg C. The diver accepted he might be dehydrated and began to take in fluid immediately. It was recommended he see a doctor who agreed he was suffering from dehydration.

May 2013 **13/196**

A diver reported that he had a blocked feeling in his ear which he had experienced all night. He had carried out one dive the day before to 6m for 55 min. He was advised not to dive and to seek medical advice.

June 2013 **13/207**

It had been noticed that a trainee diver had some minor congestion but had been able to clear his ears and dive on the previous day of a training course. The following day the diver's congestion had worsened and he was showing signs of a chest cough. The diver was stopped from continuing his training.

June 2013 **13/208**

Following a dive to 10m for 29 min a trainee diver surfaced with blood and mucus in his mask. During the surface interval he became more congested and therefore refrained from further training

June 2013 **13/210**

On descending for the first training dive of the day a diver could not clear his ears and aborted the dive. He refrained from further diving due to pain and congestion.

June 2013 **13/199**

A diver reported discomfort in his ear after surfacing from the second dive of the day. He sought medical assistance and it was confirmed that he had an inflammation in his ear canal. He was told to stop diving for two days.

July 2013 **13/206**

Following a one hour training session in a pool, a trainee was unable to clear his ears. He stopped training and had no further pain or problems.

July 2013 **13/204**

A trainee diver indicated he was not fit to dive during a dive brief. He complained of ear ache so was sent to a medical facility where he was informed he had an ear infection. The diver was advised not to dive or swim for a week.

August 2013 **13/217**

During a dive to a maximum depth of 17m a diver could not breathe from his regulator and started to panic. The dive guide made contact with him and provided an octopus regulator for the diver to breathe from. The pair made a faster than normal ascent to the anchor line at a depth of 6m and then a normal ascent to the surface. On recovery into the boat the diver was coughing and complained of a slight discomfort around his chest but no other symptoms. The diver was advised to attend hospital for a medical check up and attended a local clinic where he was advised to go for an x-ray. The diver returned to the dive centre a few days later reporting everything was alright. The regulator was checked and found to be working properly.

August 2013 **13/218**

A diver completed a dive to a maximum depth of 24m and a total duration of 49 min. Approximately three and a half hours after surfacing the diver contacted the dive centre saying he thought he was suffering from DCI. The diver was advised that this was unlikely given the profile followed on the dive but he was advised to attend the local hospital. The dive guide downloaded a copy of his computer profile for the hospital but on arrival he was advised that the diver had been airlifted by helicopter to a recompression chamber, where he received a three hour recompression treatment. It was subsequently reported that whilst at hospital waiting for helicopter transport, the diver's heart stopped but he was successfully resuscitated. The diver was reported to have a pre-existing heart condition for which he was taking medication but he had not disclosed this to the dive centre. The diver has been advised not to dive for six months and to consult a doctor before returning to diving.

Boating and Surface

January 2013 **13/034**

A pair of divers went missing during a boat dive. A rescue boat searched the area and additional craft including a police launch and local fishing boats were called upon to assist. The divers were recovered unharmed. Towards the end of their agreed dive time they had been caught in a down current and had struggled to maintain their depth but had made decompression stops at 12, 9 and 6m. When they surfaced the current had pulled them nearly 1,000m away from the dive site. They deployed a DSMB as an additional aid for the searchers as well as waving, shouting and using torches to attract attention.

March 2013**13/219**

A RHIB, which had previously failed to start and was involved in incident 13/036, had been recovered and checked and supposedly working and able to take two groups, one with six divers and a boat handler, the second with seven or eight divers and a boathandler. There was significant swell on the site but the divers from the first boat completed their dive with no incident. The RHIB was tied onto a buoyed shotline and when the six divers got back onboard there were two other divers from the second boat already onboard. The divers were told the other RHIB had broken down again and rather than returning to the liveaboard and then returning for the rest of the second group they would wait for the remaining divers to surface. When they surfaced the divers said they would prefer to wait on the line for the RHIB to return and pick them up. However, the dive guide was insistent they de-kit and board the RHIB. There were now thirteen or fourteen divers, their kit and the boat handler in the one RHIB. The boat was untied from the buoy but in the rough conditions the boat began filling with water and quickly became swamped, the engine submerged and would not start. The guide said all would have to jump out of the boat and most of the divers managed to grab their fins, some also had masks. The divers were told to swim away from the reef but the wind and waves were too strong and swept the divers towards the reef and the breakers. Losing masks and being hit by wave after wave was exhausting the divers but fortunately they were swept over and onto the reef and out of the breakers. The RHIB had been swept onto the reef so all the divers swam to it, hung on for a rest and eventually having taken their kit off the boat, swam with inflated jackets back to the liveaboard.

March 2013**13/036**

A group of divers were diving an offshore reef in rough sea conditions when the engine of one of the two RHIBs involved in picking up divers stalled and would not start. The waves and wind pushed the RHIB towards the reef and breaking waves. The boat was flipped over tipping all the divers and kit overboard. The same RHIBS were involved in Incident no. 13/219.

Ascents**December 2012****13/018**

At the end of a navigation exercise on the second dive of the day, an instructor and his dive leader trainee were lifting the shotweight. The trainee dive leader attached his DSMB to the shotweight but upon inflation it became detached and went to the surface. The instructor attached his own DSMB and began a controlled lift when the trainee indicated he was out of air and switched to his pony and then shot up towards the surface. The instructor continued the lift of the shotweight with a faster than normal ascent. At 3m with ascent warnings on his computer he made a 3 min stop during which he could see the trainee on the surface with a lot of line around him, the instructor then continued to surface. Both divers were recovered into a boat and as the instructor had missed around 10 min of decompression stops and the trainee had made a fast ascent, both were put on oxygen for twenty minutes and observed for some time afterwards but no signs or symptoms were evident.

March 2013**13/035**

A dive group ascended to complete their dive at shallower depths on a reef. One of the divers was buddied with the dive guide due to concerns earlier in the dive regarding his diving skills. One moment the diver was with the dive guide and next he was on the surface. The dive guide surfaced and found the casualty partially conscious, blue and bleeding from the mouth. The casualty advised the dive guide that he had held his breath

on ascent. He was recovered to the dive boat and given oxygen initially in the recovery position, raised to a sitting position and then a lying position as his condition improved. However, the casualty was having breathing difficulties and coughing repeatedly. Another diver, who was also a doctor, suspected lung damage due to the ascent. The dive boat rendezvoused with a helicopter which took the casualty to hospital. At the hospital x-rays showed the casualty had water on his lungs and tests revealed that he had had a heart attack.

March 2013**13/195**

Two divers were carrying out a planned no stop dive on a wreck. The plan was a maximum depth of 32m for 40 min with a 6m safety stop for 3 min. Both divers were using dive computers supplied by their club. At approximately 27m the 'No-Deco-Time' was misread as 7 min when it was actually showing an ascent time of 7 min and a ceiling of 3m. The divers began their ascent and carried out their planned 3 min safety stop at 6m. Once the 3 min had elapsed it was noticed the computers still showed 'Stop time'. The divers made a decision to surface at which point both computers issued alarms. The divers exited the water and reported to the dive manager saying their computers had given them audio alarms during the dive and when surfacing from their 3 min safety stop. Both computers were displaying an 'Error code' and a 'No-Fly' time of approximately forty-seven hours. A decision was made to abort the next planned dive. When investigating the computer downloads it indicated both divers had gone into mandatory decompression approximately 22 min into the dive and had made a normal ascent to the planned 6m safety stop. A recompression facility was contacted and details given on the dive and two dives from the day before. A decision was made for the divers to refrain from diving for a minimum period of twenty-four hours and to keep them under observation for any signs of DCI.

March 2013**13/215**

A pair of divers prepared to dive as part of a larger escorted group on the first day of a diving holiday. Both divers had completed an accelerated decompression course the previous year but one had not practised with a twin-set configuration and decompression stage cylinder in the sea since the course. He had done one dive at an inland site prior to the trip. Both divers did a weight check on the surface and appeared adequately weighted but the diver with less experience of the configuration insisted on adding more weight before descending. The guide led the group to the top of a wreck at 20m and checked that the whole group was fine. The guide then led the group along the side of the wreck. As the pair reached a depth of 35m the less experienced diver made signals to another diver in the group. The other diver did not understand the signals nor why he was not signalling his buddy but from conversations afterwards it appears he was asking for his torch to be put into his BCD pocket. The dive continued and after approximately 10 min the group were at a depth of 30m when the diver attempted to put his torch into his pocket. At this point his feet became buoyant, he was unable to right himself and he made a buoyant ascent to the surface. During the ascent he was eventually able to right himself and slow his ascent slightly but he ascended directly to the surface. The diver did not have any required decompression stops. The diver was recovered into the cover boat and placed on oxygen but did not exhibit any signs of DCI. The rest of the group surfaced after a normal ascent and completion of safety stops. The group returned to shore and the diver remained on oxygen as a precaution and was monitored but displayed no symptoms. He resumed diving after a twenty-four hour break but avoided deeper diving for the remainder of the week.

Technique

February 2013

13/194

A dive manager recorded the information for a pre-planned dive in two waves, one comprising seven divers and the other four divers. The dive plan for the first wave was 30m for 30 min and for wave two 35m for 30 min. To avoid confusion the dive manager prepared two dive slates for each wave to define each dive plan. When the first wave surfaced the dive manager realised that he had mixed the two plans round inadvertently putting the seven divers in to a maximum depth of 35m. None of the divers had any problems.

June 2013

13/209

Following a dive to 8m for 35 min a diver reported to the dive manager that he had missed his safety stop. Examining his computer it was found that it had not switched into safety stop mode because the diver had spent 95% of his dive shallower than 6m.

June 2013

13/104

Three divers were descending a shotline to dive the top of a wreck between 18 to 20m. One of the divers was very inexperienced, it was her first dive of the season, using a new regulator and wearing a dive computer for the first time. The inexperienced diver was briefed to remain between the two other experienced divers, one of whom was leading the dive. At about 10m the inexperienced diver called a halt to the descent as she was having trouble clearing her ears. With both the experienced divers close at hand, the inexperienced diver continued to try and clear her ears but one of the divers realised she was in some distress and appeared to be having trouble breathing. The diver released his alternate source as a precaution. Within moments the inexperienced diver gave the out of air signal and the diver presented his AS, took hold of her BCD shoulder strap and commenced an AS ascent assisted by the other diver. On the surface and assuming the diver had experienced a regulator malfunction, she was instructed to orally inflate her BCD but the dive leader tested her regulator and inflated her BCD using the direct feed. The divers were recovered to the dive boat and later the equipment was tested and found to be working properly. It was concluded that the inexperienced diver had suffered a panic attack. Later, the diver successfully completed a shallow dive to 10m.

July 2013

13/190

An instructor, who was the designated rescue diver, was diving with another instructor and a trainee diver. The rescue diver became separated from the instructor and trainee when the SMB she was using became entangled in the shotline. The rescue diver tried to recall the other instructor and trainee by banging metal on metal underwater but without success. Meanwhile, the instructor with the trainee had deployed a DSMB and they both completed the dive safely.

August 2013

13/213

A nitrox diver dived a 40m wreck spending approximately 20 min on the wreck and approximately 30 min ascending. He completed a safety stop at 3m. He thought he had stayed at the safety stop long enough but when he surfaced his computer had gone into alarm mode. The diver was put on oxygen as a precaution.

Equipment

February 2013

13/031

On the third and last dive of the day and beginning a gradual ascent up a reef wall, a diver inverted to take a photograph and his regulator appeared to miss one cycle of his regular breathing pattern. A normal air supply returned as he became upright. Ascending further and with 80 bar reading from his gauge he inverted again to take a photograph. When he became upright he was having difficulty breathing any air from either his main regulator or octopus, managing about three breaths with difficulty. His gauge showed 70 bar and then fell instantly to 0 bar. He finned towards his buddy and took his AS. They ascended to 7m before the dive leader slowed the ascent to the surface. There were no signs of any free flow or loss of air from the diver's cylinders or regulators. Following the dive, the diver detached his rig from the cylinder and found a soapy substance around the filter on the first stage. When he connected another rig it confirmed there was still 70 bar pressure in the cylinder. The primary regulator was serviced the following day and the pressure gauge, which was not changed, read accurately for the following dives.

June 2013

13/198

A diver surfaced from a dive on a training course. On de-kitting and passing his equipment up into the boat it was noticed that he lost an integrated weight pouch.

June 2013

13/200

A diver entered the water on a planned 20m dive but experienced a free flow from her octopus. It took some time to resolve the problem resulting in the diver losing approximately 80 bar from her cylinder. The dive plan was adjusted and the dive continued but at a shallower depth.

June 2013

13/112

Two divers were on a diving holiday and felt the safety brief onboard the dive boat extremely poor. They requested further information but this was limited to life vests, fire extinguishers and muster point. Nothing was given on transfer between the main liveaboard boat and dive tender, life rafts (not seen onboard), oxygen kits and operation. On the first day of diving, a Sunday, a check out dive was made. One of the divers tested the air in his and his buddy's cylinder on the tender boat and both were contaminated with poisonous levels of carbon monoxide. Having brought this to the attention of the dive guide the diver was requested to test more cylinders. Only one out of ten was within EN 12021 limits, the remaining nine contained elevated levels of carbon monoxide. The dive was cancelled and the dive guide asked the diver to carry out some further testing on the compressors. Low carbon monoxide levels confirmed that any fumes from the adjacent liveaboard were not the problem. The readings changed dramatically when the compressors were started. Measurements of the air flow directly from the fill whips showed high contaminations levels as well as measurements at the air intake. The dive guide indicated they would replace the filters but the diver warned that doing so would be unlikely to resolve the problems. The air intake lines were modified. On the Monday, three dives were made and the carbon monoxide levels appeared within EN12021 as far as these were measured. No clear briefing was given by the dive staff that they now had an analyser available for guests nor an explanation or demonstration on how it should be used which resulted in many divers taking short readings well below the response time of the analyser. Despite the poisoned fills on the Sunday and the presence of the analyser brought onboard by the operator, on the Tuesday morning before the first dive, three cylinders analysed by the diver again contained elevated carbon monoxide levels as well as cylinders tested by others. Six or seven

cylinders were not right but many cylinders were not tested. Rejected cylinders were exchanged for others that tested low and the dive was made. The diver and his buddy skipped the remaining three dives for that day. On the Wednesday, some cylinders tested were correct, some had slightly elevated levels and occasionally a cylinder would test outside the EN standard. During the dives it was noted that several cylinders were leaking, mostly from the valve to cylinder connections but also one from a valve's burst disc. On the Thursday morning before the first dive, the divers were informed that one of the two compressors had broken down. On the Friday evening the divers were informed that the second compressor had broken down. The divers' concern will always remain as to what would have happened if they had not carried a carbon monoxide analyser themselves and they were left with no confidence in the dive operator.

June 2013

13/201

Three divers surfaced from a 22m 30 min wreck dive and commented on a strange taste to their diving gas. None of the divers complained of any ill effects. The filling station was informed and a cylinder test was found to be free of contamination.

August 2013

13/216

A rebreather diver and his buddy conducted the second dive of the day on a wreck to a maximum depth of 54m. They were guided to view an aircraft off the stern of the main wreckage, which the guide had some difficulty locating. As a result of the depth and the time taken the rebreather diver had accumulated approximately 30 min of required decompression. The rebreather diver swam quickly back to the shotline on the main wreck at a depth of 26m and then rolled onto his side to check for his buddy who was in fact close by but on the opposite side to the direction he had turned. As the diver rolled back he breathed in but got a mouthful of water. The diver bailed out onto his off board 11 lt air cylinder. The diver then discovered that the mouthpiece had become detached from his rebreather hose and he was holding it in his hand having removed it when fitting his bailout regulator. The diver was able to refit the mouthpiece to his rebreather and then switch back to breathing from the unit which was working effectively. On ascending to a depth of 12m the divers needed to swim horizontally to a decompression station suspended from the stern of the support boat. The diver decided to switch back to his bailout cylinder in case the mouthpiece became detached again during this swim. Once securely on the deco station the diver switched back to his rebreather and completed his stops without further incident. On surfacing the diver found approximately 1cm of water collected in the bottom of the scrubber unit of the rebreather. The diver had changed the rebreather mouthpiece three days previously with a genuine manufacturer's spare and tie wrapped it in place.

September 2013

13/205

Two divers were setting up their kit preparing for a shore dive and noticed that the air in their cylinders smelled abnormal. The dive manager was alerted and other divers in the group told to stop preparing for the dive until their cylinders were tested. With other cylinders also identified as having bad air, smell and

carbon monoxide, the compressor operators were immediately notified and all filling ceased. The compressor was to be serviced with air purity tests to be carried out when completed.

September 2013

13/211

On the fifth dive of a week's holiday on a liveboard a diver and his buddy descended to 27m with the plan to ascend a reef wall. Approximately 5 min into the dive, the diver decided to check out his octopus regulator which had been recently serviced but had only been used in a pool. As he took hold of the hose in one hand and the regulator in the other there was a very loud 'crack'. The diver found that although still holding onto the hose and regulator, they had completely separated with bubbles flying out of the hose. He let go of the hose which resulted in it spinning around his head 'like a helicopter blade'. The diver remembers checking his computer which read 24m, looking up and seeing bubbles, the hose circling his head and thinking the surface was in reach. Looking around he could not see his buddy, who was in fact coming towards him very fast with his octopus outstretched. The diver made the decision, he was at a reasonable depth, his air was going to run out so he would go for the surface. He gave a gentle but firm squirt of air into his BCD and ascended, venting from his BCD and watching his computer all the time. He was taking it as slowly as he could with the thought of running out of air focusing his mind and being prepared to breathe out on the last few metres of the ascent. At 9m the dive guide raced across from the group he was with, caught the diver and offered his octopus which the diver took. The guide turned off the cylinder and they both settled at 6m. OK signals were exchanged and between them they put the regulator back together. The swivel had become unscrewed between the hose and the swivel connector on the second stage, which the diver was still holding in his hand. The guide turned the cylinder back on, the octopus was stowed and the diver's main regulator retrieved. The diver completed the dive with no ill effects.

Miscellaneous

February 2013

13/193

A group of divers were using a large rock platform as an exit point from diving a tunnel and cave site. One of the natural features near the exit point was a blow hole. A diver was exiting the water onto the rock platform and as he stood up a wave washed over the platform taking him backwards and into the blow hole. As the diver still had his regulator in and mask on he was able to breathe but as he went through the hole his mouthpiece was ripped off and damaged. He changed to his alternate air source and swam back up the hole to the surface where he was helped out of the water by his buddy and another diver. During recovery of the first diver another diver slipped over the blow hole when another wave washed over the platform. He also had his regulator in and mask on but did not fall into the hole as he had spread his body to stop himself going down and was helped up out of the water.

INCIDENT REPORTS

If you would like to add to, correct or place a different interpretation upon any of the incidents in this report please put your comments in writing and send them to the following address:

**The Incidents Advisor,
The British Sub-Aqua Club,
Telford's Quay,
South Pier Road,
Ellesmere Port,
Cheshire,
CH65 4FL.**

For new incidents please complete a BSAC incident report form and send it to BSAC HQ at the address shown above.

All personal details are treated as confidential.

Incident Report Forms can be obtained free of charge from the BSAC Internet website

<http://www.bsac.com/incidentreporting>

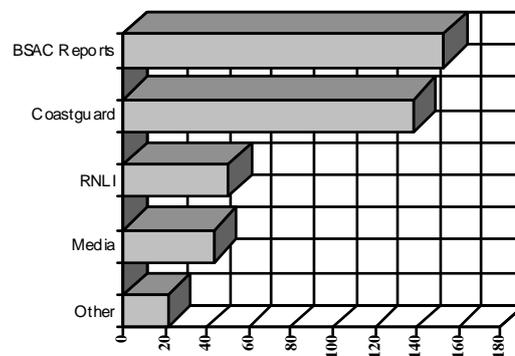
or by phoning BSAC HQ on **0151 350 6200**

Numerical & Statistical Analyses

Statistical Summary of Incidents

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Incidents Reported	439	465	453	409	498	499	437	401	416	453	412	405	377	335
Incidents Analysed	417	458	432	392	445	474	418	377	381	409	393	392	346	311
UK Incidents	384	433	414	366	423	441	379	349	359	381	364	375	314	263
Overseas Incidents	33	25	18	26	22	33	39	28	22	28	29	17	32	48
Unknown Locations	1	0	0	0	0	0	0	0	0	0	0	0	0	0
UK Incident - BSAC Members	113	122	149	162	154	160	148	120	129	120	116	193	133	104
UK Incident - Non-BSAC Members	52	94	55	74	72	65	50	61	65	29	30	94	40	38
UK Incident - Membership Unknown	219	217	211	130	197	216	181	168	165	232	218	88	141	121

UK Incident Report Source Analysis



Total Reports: 405
Total Incidents: 263

History of UK Diving Fatalities

Year	Membership	Number of Fatalities	
		BSAC	Non-BSAC
1965	6,813	3	-
1966	7,979	1	4
1967	8,350	1	6
1968	9,241	2	1
1969	11,299	2	8
1970	13,721	4	4
1971	14,898	0	4
1972	17,041	10	31
1973	19,332	9	20
1974	22,150	3	11
1975	23,204	2	-
1976	25,310	4	-
1977	25,342	3	-
1978	27,510	8	4
1979	30,579	5	8
1980	24,900	6	7
1981	27,834	5	7
1982	29,590	6	3
1983	32,177	7	2
1984	32,950	8	5
1985	34,861	8	6
1986	34,210	6	9
1987	34,500	6	2
1988	32,960	10	6
1989	34,422	4	8
1990	36,434	3	6
1991	43,475	8	9
1992	45,626	9	8
1993	50,722	3	6
1994	50,505	6	6
1995	52,364	9	9
1996	48,920	7	9
1997	48,412	4	12
1998	46,712	6	16
1999	46,682	8	8 *
2000	41,692	6	11
2001	41,272	9	13
2002	39,960	4	10
2003	38,340	5	6
2004	37,153	6	19
2005	37,185	5	12
2006	35,422	4	12
2007	34,857	7	5
2008	34,325	6	4
2009	32,790	7	7
2010	32,229	8	9
2011	30,909	4	7
2012	29,632	10	7
2013	28,728	5	9

Note

* 1999 Figure corrected from 9 to 8 due to a double count discovered in 2010

LIST OF ABBREVIATIONS USED IN THIS AND PREVIOUS INCIDENT REPORTS

AS	Alternative source (gas or air)
AAS	Alternative air (gas) source
A&E	Accident and emergency department at hospital
AED	Automated external defibrillator
ARCC(K)	Aeronautical rescue coordination centre (Kinloss)
ARI	Aberdeen Royal Infirmary (Scotland, UK)
AV	Artificial ventilation
AWLB	All weather lifeboat
BCD	Buoyancy compensation device (e.g. stab jacket)
BOV	Bailout valve
CAGE	Cerebral arterial gas embolism
CG	Coastguard
CCR	Closed circuit rebreather
CNS	Central nervous system
CPR	Cardiopulmonary resuscitation
CRT	Coastguard rescue team
DCI	Decompression illness
DDMO	Duty diving medical officer
DDRC	Diving Diseases Research Centre (Plymouth, UK)
DSC	Digital selective calling (emergency radio signal)
DSMB	Delayed surface marker buoy
DPV	Diver propulsion vehicle
ECG	Electrocardiogram
ENT	Ear, nose and throat
EPIRB	Emergency position indicating radio beacon
FAWGI	False alarm with good intent
FRS	Fire and rescue service
GP	General practitioner (doctor)
GPS	Global positioning system
Helo	Helicopter
HLS	Helicopter landing site
HMCG	Her Majesty's Coastguard
HUD	Head up display
ILB	Inshore lifeboat
INM	Institute of Naval Medicine
IV	Intravenous
LB	Lifeboat
MCA	Maritime & Coastguard Agency
m	Metre
min	Minute(s)
MOD	Maximum operating depth
MOP	Member of the public
MRCC	Maritime rescue coordination centre
MRSC	Maritime rescue sub centre
MV	Motor vessel
NCI	National Coastwatch Institute
PFO	Patent foramen ovale
PLB	Personal locator beacon
POB	Persons on board
QAH	Queen Alexandra Hospital (Portsmouth, UK)
QAB	Queen Anne Battery (Plymouth, UK)
RAF	Royal Air Force
RHIB	Rigid hull inflatable boat
RMB	Royal Marines base
RN	Royal Navy
RNLI	Royal National Lifeboat Institution
ROV	Remotely operated vehicle
SAR	Search and rescue
SARIS/SARSYS	Search and rescue information system
SMB	Surface marker buoy
SRR	Search and rescue region
SRU	Search and rescue unit
UTC	Coordinated universal time
VLB	Volunteer life brigade
999	UK emergency phone number