

The British Sub-Aqua Club



NDC Diving Incidents Report

2004

Compiled by

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Diving Safety and Incidents Advisor



Introduction

This booklet contains the 2004 Diving Incidents Report, produced by The British Sub-Aqua Club (BSAC) in the interest of promoting diving safety. It is important to note that it contains details of UK diving incidents occurring to divers of all affiliations, plus incidents occurring worldwide involving BSAC members.

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:

| <i>MONTH/YEAR OF INCIDENT</i> | <i>INCIDENT REF.</i> |
|----------------------------------|----------------------|
| 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,
November 2004*

Acknowledgements

Data for this report are collected from several different sources. I would like to extend my thanks and appreciation to the following for their assistance in its production and in ensuring its completeness:

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Roger Aldham, Data and Statistical Analyst,
Royal National Lifeboat Institution**

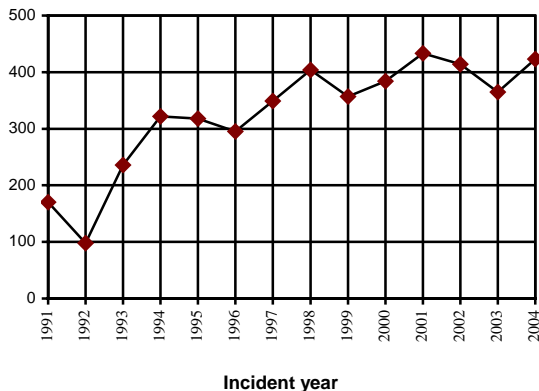
and, in particular, all of those divers and other sources who have taken the trouble to complete Incident Reports and share their learning experience with others.

Finally, to Dr. Yvonne Couch for proof reading this report

Overview

2004 has seen an increase in the number of incidents reported. This reverses the situation reported last year where a significant drop in reported incidents occurred. The following chart shows the pattern over the last 14 years. The downward trend seen in 2002 and 2003 has not continued. In the previous decade the number of reported incidents increased by about 20 per year; it is possible that we are now seeing a levelling off at around 400 per year.

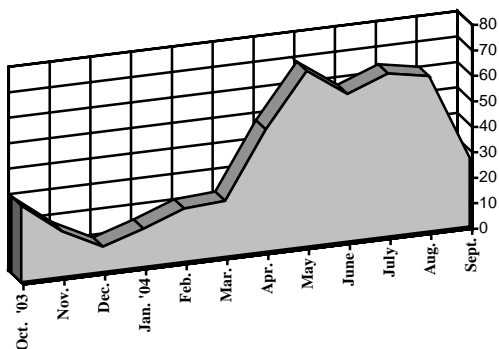
Number of reported incidents



The distribution of reported incidents is shown in the following chart. As can be seen, 69% of these incidents have occurred in the summer period. This is totally consistent with previous years, reflecting the increased number of dives that take place during the warmer weather.

There is a slight and unusual dip in June, but this probably reflects the weather conditions during that month.

Monthly breakdown of all incidents - 2004



Incidents by category

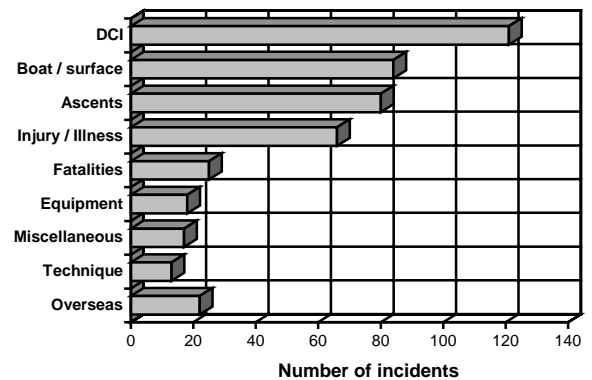
The incident database categorises all incidents into one of nine major categories, and the following chart shows the distribution of the 2004 incidents into those categories.

The highest number of incidents relates to 'Decompression Illness (DCI)' and this is consistent with previous years. 'Boating and Surface' incidents are the second largest category and the 2004 numbers continue the previously identified trend of a steady decline in this type of incident. More reliable and better-serviced engines and divers taking more care to ensure that they don't become lost are at the heart of this improvement.

A worrying trend is the increase in the number of incidents in the 'Ascent' category, which has increased by 50% over the average of the last six years. This group of incidents relates to incorrect ascent procedure where no subsequent problem arose. Many rapid ascents result in a DCI and as such would be placed in the 'DCI' category.

Typically a diver loses control of his or her buoyancy during the ascent and makes an uncontrolled ascent to the surface, often missing decompression stops. Typical reasons are distraction whilst deploying a delayed surface marker buoy, jamming of the delayed SMB reel and lack of skill with drysuit buoyancy control. All of these are avoidable by the use of correct techniques, good training, sufficient practice and correct equipment maintenance.

Categorisation of the year's incidents



Fatalities

The 2004 incident year has seen 25 fatal incidents in the UK, a serious increase compared with the average of 16.5 per year over the last ten years. 6 of the 25 were BSAC members.

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

- Five cases involved people who suffered a serious medical problem (typically a heart attack) whilst they were diving. This is a high number compared with an average of two per year over the previous six years.
- Eight cases involved divers who were, or who became, negatively buoyant and sank. In a number of cases divers were at the surface, in difficulties, but were unable to remain at the surface. In other cases divers were in difficulties and ascending, when they started to sink back down. These divers were all close to safety but buoyancy issues took them away from the surface and they lost their lives. The average of such instances over the previous six years is 2 per year, and hence this year's events represent a substantial increase. This is an area that we need to emphasize in our training programmes. Divers must be able to make themselves positively buoyant easily and quickly, so that their automatic response as soon as a problem of this nature starts to develop is to inflate a buoyancy device and/or dump weights. If they are underwater at the time, the resultant ascent may cause its own problems but it is likely to be far less serious than the alternative.
- Six cases involved separation. In each of these cases the separation was not planned.

Two cases involved a diver who became separated during the descent. In one case it was a trio diving and in another it was two pairs together.

Two cases involved divers who became separated during the course of a dive; one of these cases involved a trio.

One case involved a trio ascending, and, while two of them were resolving a line tangle, the third diver was lost.

The final case involved a diver who was sinking quickly and his buddy was unable to stay with him.

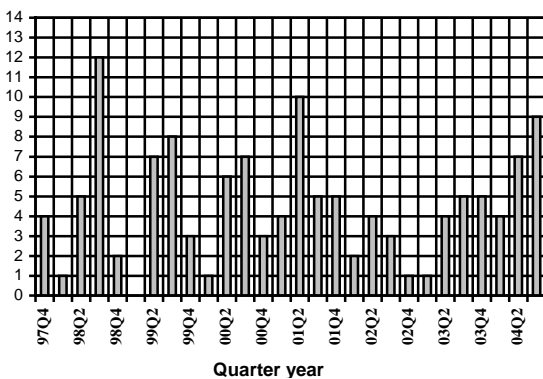
- Five cases involved groups of three divers diving together (trios). Three of these involved separation, as highlighted above.
- Four cases involved equipment issues. One case involved a cylinder that was turned off. One case involved a rebreather that was not set up correctly before the dive. One case involved a BCD that the diver was not familiar with. In the fourth case the specific issue was not made clear.
- Four cases involved divers diving deeper than 50m. One involved a diver at 58m breathing air. One involved a diver whose body was found at a depth of 67m. The last case involved a double fatality where the divers' bodies were found at 70m.
- Three cases involved divers running out of breathing gas. In one case this was as the result of an entanglement and associated problems. In one case it was the primary cause of the incident. In the last case it would appear that a diver accidentally used his pony cylinder regulator at the start of the dive and problems arose when this cylinder unexpectedly ran out.
- Two cases involved rebreathers.

Often multiple causes were involved in an incident and in thirteen of these fatal incidents there is insufficient information available to be clear about the exact chain of events and root causes.

Finally there was one reported fatality overseas that indirectly involved a BSAC member.

25 fatalities in the incident year is a high number but to some extent this number arises because of the timing of the fatal incidents themselves. The following chart shows the number of fatalities by quarter year for the last seven years.

Fatalities per quarter



It can be seen that the pattern of the last four quarters is not inconsistent with previous quarters.

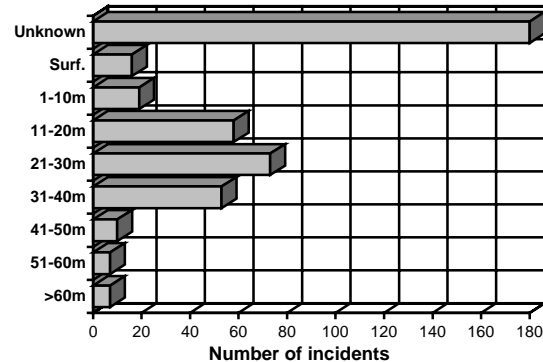
We should not be complacent about these incidents, clearly each is a tragedy for those involved and we must do all that we can to identify the causes and to make recommendations accordingly. On the other hand we must avoid jumping to a

conclusion that some dramatic change must have taken place to cause this increase.

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 range is 14, which is in line with previous years. However 4 of these 14 were fatal incidents, clearly indicating the risks associated with deep diving.

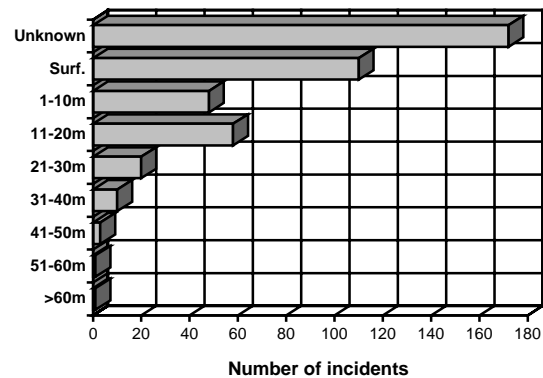
The BSAC advises that no air dive should be deeper than 50m, and that dives to 50m should only be conducted by divers who are appropriately trained and qualified.

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.

The BSAC recommends that mixed gas diving should be to a maximum depth of 70m and then only when the diver holds a recognized qualification to conduct such dives.

The next chart shows the depth at which the incident 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.

The dip in June, mentioned earlier, is also reflected in these data.

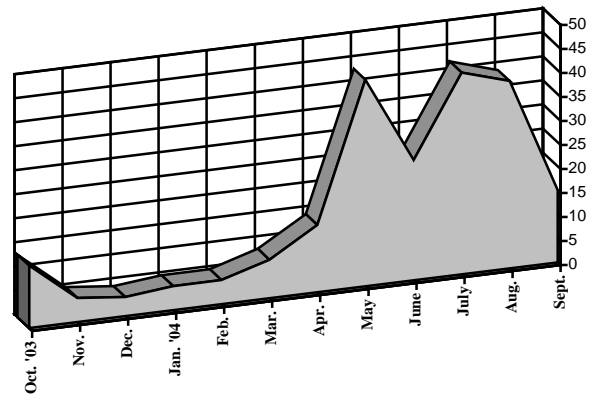
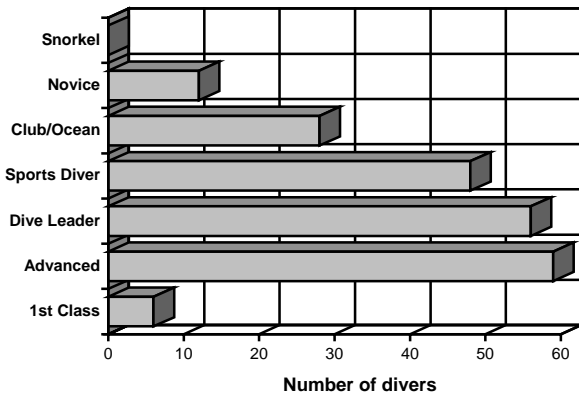
Diver Qualifications

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

Our demands upon the Coastguard service were in line with those of recent years.

UK Incidents involving the Coastguard agency - Monthly breakdown

Qualification of the divers involved in incidents



Incidents involving HM Coastguard: 218

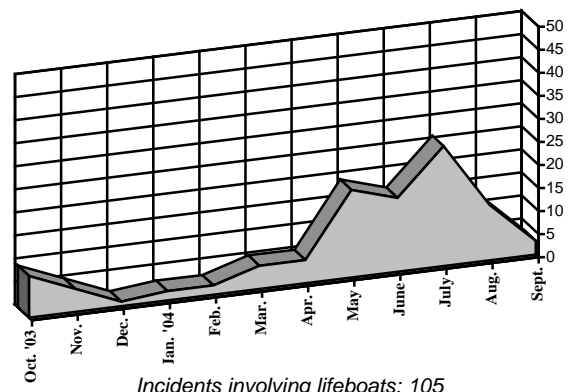
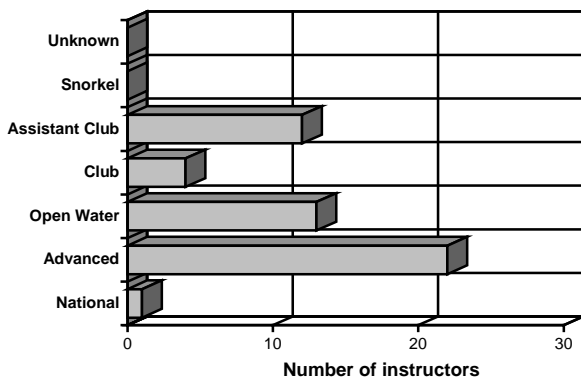
Unusually this indicates that Advanced Divers and Dive Leaders have been involved in more incidents than other levels of diver. The normal pattern is that Sports divers predominate. I am not aware of a dramatic increase in the number of divers reaching these qualification levels and I would expect the more qualified divers to be less prone to incident. I anticipate that this is an anomaly, but we will monitor this issue.

Our call upon the RNLI in the 2004 incident year is slightly up from 2003 but the overall picture is one of a steady decline in the use of lifeboats to assist divers. I think that there are two factors here. Firstly, engine failures and lost divers are reducing, as I indicated earlier. Secondly, as highlighted later, more incidents are being resolved by the use of helicopters.

The next chart shows an analysis of incident by instructor qualification and again this shows an unusual number of Advanced Instructors, albeit the overall numbers are very small.

Divers' use of RNLI facilities by month

Qualification of instructors involved in incidents



Incidents involving lifeboats: 105

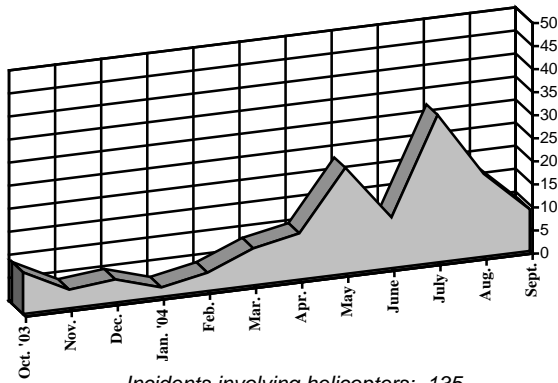
Divers' use of the Emergency Services

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.

In 2004 135 incidents involve the use of helicopters, and this is the highest number recorded. Helicopters are tasked to support searches for missing divers and to transport divers with DCI to recompression facilities. In the mid 90s helicopters were involved in about 20% of diving

incidents; this number has steadily risen to 35%. It is clear that we are seeing a general increase in the availability and use of helicopters for these tasks.

Divers' use of SAR helicopters by month



Incidents involving helicopters: 135

Decompression Incidents

The BSAC database contains 121 reports of DCI incidents in the 2004 incident year, some of which involved more than one casualty. When these multiple cases are counted the result is 126 cases of DCI.

In 2003 132 cases of DCI were recorded, 168 in 2002, 116 in 2001, 134 in 2000 and 86 in 1999.

An analysis of the causal factors associated with the cases for 2004 indicates the following major features:-

- 33 involved diving to deeper than 30m
- 28 involved repeat diving
- 27 involved rapid ascents
- 13 involved missed decompression stops

Some cases involved more than one of these causes.

The report includes several cases of 'Diver illness' reported by the RNLI and whilst the nature of this illness is not recorded by the RNLI it is very likely that these are further cases of DCI.

As reported many times before, poor buoyancy control is at the heart of the majority of these cases. Divers are failing to correctly control their ascent, especially in the critical last 10m zone and are ending up with rapid ascents and/or missed decompression stops. Very often the diver is using a drysuit and is unable to prevent a buoyant ascent.

Divers continue to have problems with the deployment of delayed surface marker buoys – reels jam, equipment gets caught and divers are dragged to the surface. The very piece of equipment that is supposed to increase the safety of an ascent is having just the reverse effect.

This is an area where more training and practice is clearly needed.

Dehydration continues to be an aggravating factor in DCI cases and this is sometimes made worse by excessive alcohol consumption the night before.

Multi-day dive trips are also an area of concern. Divers are neglecting to take the recommended mid-week break from diving and developing DCI as a result.

Conclusions

Key conclusions are:-

- Reported incidents are in line with the trends of recent years.
- The number of fatalities has risen substantially in the 2004 incident year.
 - No new causal factors have been identified and there is no evidence to suggest that any changes are required to the current recommendations for safe diving practices.
 - Non-diving-related medical problems were above normal.
 - A failure to achieve positive buoyancy once a problem was encountered was present in a high number of cases.
 - Non-pair diving may have contributed by providing a distraction that allowed a problem with another member of the team to go unnoticed.
 - Increasing depth significantly increases the difficulty of resolving an incident satisfactorily. 4 of the 14 incidents with depths of greater than 50m involved fatalities.
- Training in safe ascent procedures should be a high priority for branches and instructors.

Most of the incidents reported within this document could have been avoided had those involved followed a few basic principles of safe diving practice. The BSAC publishes a booklet called 'Safe Diving' (latest edition May 2002). This booklet summarises all the key elements of safe diving and is available to all, free of charge, 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 on our Incident Report form, available free from BSAC HQ or via the BSAC website.

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

Fatalities

October 2003

04/001

A 65 year old diver completed a dive to a maximum depth of 32m and got back into the boat. The end of the dive had been exhausting and he complained of feeling tired and unwell. Others helped him remove his diving kit and he was placed on oxygen and laid down. He moved to a cabin in the boat. He then became unconscious and resuscitation techniques were applied. Emergency services were dispatched to assist but the diver failed to recover. It is thought that he suffered a heart attack.

October 2003

04/002

A diver was reported missing after a wreck dive. Later that day divers from the same party located his body on the wreck but were unable to recover it. Police and Navy divers recovered the body from 45m, six days later.

October 2003

04/004

A diver surfaced unconscious from a 25 min dive to 25m. The casualty was recovered into the boat and the Coastguard was alerted. The casualty was airlifted to hospital but he failed to recover. It is thought that he suffered a heart attack.

October 2003

04/003

A diver got into difficulties during a wreck dive. At the surface he was in a heavy swell and he had difficulty in obtaining buoyancy. He removed his mask and his regulator. He was pulled onto rocks by two buddies. These divers applied resuscitation techniques to the casualty and called the emergency services. He was brought ashore by lifeboat and then airlifted to hospital but he failed to recover. It was subsequently determined that the diver had drowned.

December 2003

04/043

Two divers conducted a dive to 58m. One used air for the dive and carried nitrox 75 for decompression, the other, the dive leader, used a rebreather with trimix 10/50 as the diluent. The divers swam through a 20m long tunnel at a depth of 57m. The tunnel contained a slack guide rope running through it. When the dive leader reached the end of the tunnel he turned to check his buddy and saw that the rope was snagging his buddy's side mount cylinder and slowing him down. The dive leader approached him to free the line. He noticed that the buddy seemed agitated. He gave him the OK signal but the buddy turned and started to swim quickly back into the tunnel. As he did so the rope snagged on his fin. The dive leader followed, continually freeing the line from his buddy's fin. 4 to 5m from the end of the tunnel the buddy stopped and kicked the mouthpiece from the dive leader's mouth. The dive leader replaced his mouthpiece but noticed that his buddy had no regulator in his mouth and that he was pointing at one of his mouthpieces. The dive leader offered the buddy one of the buddy's regulators, pressing the purge as he did so. He noticed that only a little air flowed. The buddy would not take this regulator and the dive leader then offered his own alternative air source. Again the buddy would not take this and he then lost consciousness. The dive leader attempted to pull him out of the tunnel but he was snagged on the line. He managed to free the line and pulled the casualty out of the tunnel. He was unable to inflate the buddy's BCD as no air seemed to be available. He used his own buoyancy to start the ascent. During the ascent the casualty became inverted and the dive leader was unable to vent his suit. At about 30m the ascent was so rapid that he was

unable to hold on to the casualty. He let go and made a fast ascent to the surface missing a substantial amount of decompression stop time. At the surface he found the casualty floating with his nose just clear of the water. He started to give AV and towed the casualty to the shore. The AV was inhibited by the over-inflated drysuit but the dive leader thought that the casualty would sink if he dumped air. He got the casualty to the shore and after removing both sets of equipment he dragged him onto a rock. He deflated the casualty's suit and started AV again. He ran to his car and phoned the emergency services then returned to continue resuscitation attempts. The emergency services arrived and continued resuscitation but this was not successful and the casualty died at the scene. The buddy, who was not showing any signs of DCI, was airlifted to a recompression facility for precautionary treatment. The casualty's main air supply was a twin cylinder configuration each with its own regulator. It is thought that he had a regulator free flow in the tunnel and that he turned this cylinder off and reached for his second regulator, only to find that it was switched off, which caused him to panic. The Coroner's inquest cited nitrogen narcosis as a contributory factor.

February 2004

04/093

Two divers conducted a dive to a depth of 22m. Some time into the dive, one of the pair indicated that she had 50 bar remaining. Her buddy indicated that they should ascend to a shallower depth. They started to ascend and the diver who was low on air started to rise too rapidly. She then dumped too much air and started to sink again. This process was repeated and she failed to ascend. She began to fin which caused her to move away from her buddy. Her buddy stopped his ascent, swam towards the troubled diver and took hold of her. They then sank back to the bottom and the buddy failed to equalize the pressure in his mask and ears. He thought that he was going to lose consciousness. He cleared his mask and saw his buddy kneeling on the bottom without a regulator in her mouth. He tried to give her his alternative air source but she would not take it. She then took the regulator from his mouth. He tried to reach his back-up regulator but in the confusion his mask was pulled off. He sprang back and the buoyancy in his suit and BCD brought him to the surface. He raised the alarm and other divers quickly recovered the other diver and removed her from the water. Resuscitation techniques were applied and the diver was taken to hospital where she later died. The buddy suffered a serious mask squeeze and was taken to a recompression facility where he received treatment.

March 2004

04/103

A diver was diving with two companions when he got into difficulties. He became separated from his buddies. A nearby group of divers came to assist. They brought the casualty to the surface and resuscitation techniques were applied. He was airlifted to hospital but declared dead on arrival.

March 2004

04/105

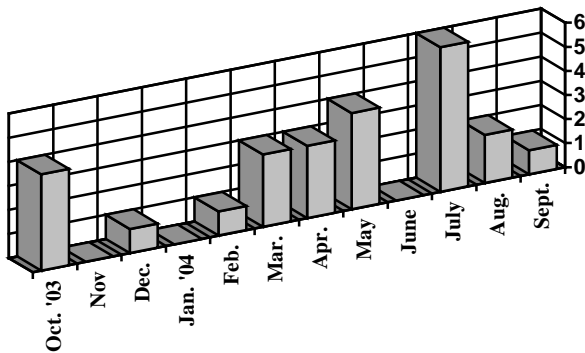
A diver completed a 35 min dive to a depth of 37m with a 3 min stop at 3m. 3 hours 26 min later he dived again to a depth of 29m. During the dive he became separated from his buddy and surfaced. At the surface he was seen to be in distress. The dive boat skipper recovered another diver from the shotline and then went to assist the distressed diver. He managed to grab hold of the diver but was unable to maintain his grip. The diver who had been recovered from the shot dekked and attempted to help but the boat was swept away from the distressed diver. He was negatively buoyant and began to sink. He did not

appear to be breathing and did not have a regulator in his mouth. A surface and underwater search was initiated, but the diver was not found. The diver's body was located by an ROV, 50m from the dive site, thirteen days later and it was recovered the following day.

March 2004 04/112

A diver experienced buoyancy problem with his new BCD whilst underwater. He began to sink. His buddy attempted to assist him but had to let go when they reached 50m. The buddy made a fast ascent to the surface. The lost diver's body was found the following day, at a depth of 67m, by a police diving team using an ROV.

UK Fatalities - Monthly breakdown from October 2003 to September 2004 incl.



April 2004 04/117

At the end of a day's diving at an inland site a car was found to be remaining in the car park. It was determined that two divers were missing. Their bodies were recovered from underwater four days later. The depth at which they were found was reported to be around 70m. (Media reports).

April 2004 04/118

A group of divers arrived at a wreck site to conduct a series of dives. The first pair entered the water but the current was too strong and they were swept passed the shot buoy. They were recovered into the boat. Approximately 30 min later a second pair commenced their dive and, despite a 1.5 knot current, they reached the buoy and started their dive. At 10m the current was about 0.5 knot. There was a brief slack period and then the current started again. The first pair and a third pair of divers then entered the water and started their descent down the shotline, one behind the other. The third pair reached the wreck at a depth of 22m and swam away from the shot. One diver from the first pair noticed that her buddy was not with her and she waited at the bottom of the shot. After several min of waiting and searching she deployed a delayed SMB and started her ascent. At the same time a second delayed SMB was also seen to break the surface by those in the boat. The lone diver completed her ascent and was recovered into the boat. The other delayed SMB was seen to be drifting. It was recovered into the boat. Approximately 30m of line was attached to the partially inflated buoy and the winding handle of the reel was found to be broken off. The other two pairs of divers completed their dives and were recovered into the boat. At this point the Coastguard was alerted that a diver was missing. An extensive

surface involving two helicopters, a lifeboat and other craft was made. An underwater search was also made but the missing diver was not found. Police divers recovered the diver's body, from close to the wreck, eight days later

May 2004 04/148

A diver undertook her second dive of the day. At a depth of 10m she indicated that she had a problem and made a rapid ascent to the surface. The emergency services were alerted and the diver was taken to the shore. Resuscitation techniques were applied but the diver failed to recover. (Media reports).

May 2004 04/158

Three divers were conducting a shore dive to a maximum depth of 9m. They surfaced and one of the three got into difficulties. His buddies attempted to assist him but he sank beneath the surface. The emergency services were alerted and the missing diver's body was recovered from the seabed later that day. (Media report).

May 2004 04/171

A group of divers were diving from a harbour wall. On entering the water, one diver decided that he needed more weight and he returned to the harbour wall. He then collapsed. Other divers assisted and resuscitation techniques were applied. The emergency services attended but the diver was pronounced dead at the scene. The casualty was reported to have had a fit whilst in the water.

May 2004 04/172

Three divers using rebreathers prepared to make a dive to a maximum depth of 60m. One of them waited in the water for the others to finish kitting up as he was warm. They then swam 20m to a shotline and began their descent. They descended the line one behind the other, with the diver who had waited in the water last. They checked each other twice during the descent. The first two divers arrived at the bottom of the shotline at a depth of 50m. They changed the settings of their rebreathers and one attached a strobe to the shotline. They looked up for the third diver but he was not there. They checked around and they made an ascent to the surface. The missing diver was not at the surface. They raised the alarm and one of the divers re-descended to search for the missing diver. He found the missing diver on the bottom. His rebreather hand sets were found to be part way through the set up sequence. The casualty had his mouth piece in place and the rescuing diver completed the rebreather set up sequence and then brought the casualty to the surface. Both divers then towed the casualty to a pontoon and others helped to recover him from the water. Resuscitation techniques were applied but the casualty failed to recover. Because of his rapid ascent, the rescuing diver was placed on oxygen and then flown by helicopter to a recompression facility. He developed symptoms of DCI and received a three day series of treatments. A post mortem examination concluded that the casualty died from asphyxia. The Coroner's inquest concluded that he had failed to switch on the rebreather controls before his dive.

July 2004 04/223

A diver completed a dive and then undertook a second to a depth of 30m. He surfaced at the end of the second dive and was seen to be in need of assistance. Before the boat could approach him he sank from view. The Coastguard was alerted and a search involving two lifeboats, a helicopter and other vessels was initiated. An hour later the diver's body was found by a fishing vessel. He was taken by helicopter to hospital but found to be dead on arrival.

July 2004 **04/232**

A pair of divers conducted a dive to a depth of 23m. One of the pair noticed the other ascend. He waited a short while and then deployed a delayed SMB and made his ascent. At the surface he asked if the other diver had surfaced, but he had not been seen. Another pair of divers came across the missing diver lying on the seabed. He had no hood or mask and his regulator was not in his mouth. The divers inflated the casualty's BCD and sent him to the surface and the diver was recovered into the boat. The emergency services were alerted. It was noted that his weightbelt was round his legs caught on his knife strap and that his pony cylinder was empty and his main cylinder was full. A lifeboat was tasked to assist. The diver was taken by ambulance to hospital but failed to recover.

July 2004 **04/233**

Two divers surfaced rapidly after a wreck dive. The Coastguard was alerted and the divers were brought ashore. On land one of the divers was declared dead and the other was airlifted to a recompression facility for treatment. (Media report).

July 2004 **04/236**

Three divers conducted a dive to a wreck in a maximum depth of 40m. All three were using nitrox 26 as a dive gas and nitrox 50 for decompression. When one of the three reached 100 bar they started to make their way back to the shotline. One of the three then started to deploy her delayed SMB and the other two stopped to launch their own SMBs. They started their ascent within sight of each other. The SMB lines of two of the divers became tangled and they had to concentrate on correcting this. When they looked back the third diver was not to be seen. One of the two re-descended but could not see the missing diver. Both divers carried out their decompression stops and surfaced. Whilst they were doing so the missing diver was seen to arrive at the surface with her BCD inflated. It was quickly noticed that she was face down and not moving. She was recovered into the boat and resuscitation techniques were applied. A lifeboat attended with a doctor onboard but the diver failed to recover. Subsequent examination found that the casualty's decompression gas was 53% oxygen. Her dive computer showed that she made a normal ascent to 23m, then a gradual descent to 30m then a rapid ascent to the surface in less than 1 min. It is thought that the casualty switched to her decompression gas before sinking back down to 30m. Her SMB was not found and she may have experienced problems with it or with her buoyancy control. It was thought that breathing 53% oxygen at 30m may have induced oxygen toxicity resulting in her inflating her BCD to raise her quickly to the surface.

July 2004 **04/255**

The Coastguard was alerted when a diver surfaced unconscious from a maximum depth of 8m. The diver was recovered into the boat and resuscitation techniques were applied. The casualty was airlifted to hospital but he was declared dead shortly afterwards. Cause of death was not thought to be diving related. (Coastguard report).

July 2004 **04/264**

Shortly after surfacing from a dive, a diver complained of chest pains. His condition quickly deteriorated and the Coastguard was alerted. Resuscitation techniques were applied to the casualty and he was airlifted to hospital. Shortly after his arrival he died. It is thought that he had suffered a heart attack.

August 2004 **04/256**

A diver entered the water for his second dive of the day. He was using a rebreather. In the water he appeared to be very negatively buoyant and he called for assistance. His buddy offered his alternative air source but the troubled diver did not take it. The buddy had his mask knocked off and his regulator knocked from his mouth. The troubled diver sank quickly. There was a 2 knot current. The buddy refitted his equipment and dived down to try to locate the missing diver. He was not successful. The Coastguard was alerted and an unsuccessful air and sea search was conducted. His body was found, washed ashore, twelve days later.

August 2004 **04/265**

A diver experienced equipment difficulties whilst diving on a wreck in a depth of 25m. He was found to be unconscious at the surface. He was recovered into the boat and resuscitation techniques were applied. The Coastguard was alerted and the casualty was brought ashore by lifeboat. He was declared dead on arrival at the shore. It was reported that the casualty had suffered a pulmonary barotrauma.

September 2004 **04/336**

Three divers were conducting a night dive to a depth of 15m. Two of them surfaced and then one of them shouted for help and sank. His body was later recovered from underwater. (Media report).

BSAC Fatalities against membership 1982-2004
(UK fatalities only)



Decompression Incidents

October 2003 **04/060**
A diver conducted a dive to 33m. During the dive water entered his drysuit and he decided to abort the dive. His dive duration was 25 min. Once out of the water he complained of feeling cold and unwell. He stated that his legs felt 'tingly'. He was given water to drink and placed on oxygen. The Coastguard was alerted and the diver was evacuated to a recompression facility where he received treatment. He was released the following day. This diver was participating in a dive holiday and had dived previously to the subject dive.

October 2003 **04/392**
Diver reported having sore shoulder a skin rash, suspected of having DCI. Taken to recompression chamber for treatment lasting 6 hours. (Coastguard report).

November 2003 **04/394**
Dive support vessel contacted Coastguard asking for assistance having a diver aboard suffering from suspected DCI. Casualty was airlifted to chamber, buddy also taken as a precaution. (Coastguard report).

November 2003 **04/026**
Two divers dived to 35m. During their ascent, at a depth of 17m, one of the pair lost control of his buoyancy and made a rapid ascent to the surface. His total dive time was 16 min. He was placed on oxygen. 45 min after surfacing he noticed a pain in the calf of his right leg. He was taken by ambulance to hospital and from there to a recompression facility where he received treatment. The diver's drysuit had a cuff dump valve and he stated that this had not worked correctly.

November 2003 **04/045**
A diver completed a 32 min dive to a depth of 15m. 4 hours 50 min later the diver developed a headache and began to vomit, his recollection of the day's events was also confused. Medical advice was sought and the diver was taken to hospital and placed on oxygen. From hospital he was taken to a recompression chamber for treatment. He was kept in hospital for observation for 24 hours and then discharged.

November 2003 **04/032**
Two divers suffering from DCI were transferred to a lifeboat and then airlifted to a recompression chamber for treatment. It is believed that one of the divers suffered equipment problems which caused them to make a rapid ascent. (Media report).

November 2003 **04/396**
Diver self referred to recompression chamber, treated twice as first was unsuccessful in resolving symptoms. Diver was using a rebreather. (Coastguard report).

November 2003 **04/397**
Dive support vessel called Coastguard reporting having a diver aboard suffering from type 1 DCI. Immediately rescue helicopter R-193 was scrambled and recovered the diver from the scene, assisted by the Coastguard rescue team. Administered oxygen on scene for 15-20 min before being recovered to recompression chamber for treatment. Diver was diagnosed as having "severe spinal bend" from an apparently normal dive. (Coastguard report).

December 2003 **04/039**
A diver conducted a series of three dives. 24m for 40 min with a 3 min stop at 6m. After a 1 hour 54 min surface interval he dived to 21m for 40 min with a 3 min stop at 6m. Finally, after a surface interval of 1 hour 10 min he dived to 20m for 43 min with a 6 min ascent to 6m and a 3 min stop at 6m. When he arrived back at his home that evening he noticed a rash on his chest and a pain in his right shoulder. He sought diving medical advice and was referred to a recompression chamber. He was placed on oxygen for the journey to the recompression chamber and once there he received two sessions of recompression therapy. He was discharged the following day symptom-free.

December 2003 **04/047**
A diver completed a dive to 27m for 48 min with a 3 min stop at 6m. 2 hours 57 min later he made a second dive. The anticipated depth of the second dive was 12m to the deck of a wreck on a seabed at 18m. When the divers descended they discovered the deck at 19m and the seabed at 28m and sloping steeply downwards. The subject diver's second dive was to 33m for 43 min with a 3 min stop at 6m. Shortly after getting out of the water the diver felt that he had a migraine attack beginning and he went to lie down. 30 min later he felt dizzy, disorientated and sick. He was placed on oxygen and the Coastguard was alerted. The diver was taken by lifeboat to a recompression facility where he received six sessions of recompression therapy over the next 4 days. The diagnosis was of a vestibular DCI in his ear. He was advised not to dive again. The report states that the dive computer profiles did not violate the computer limits but that according to dive tables the second dive was not viable.

December 2003 **04/066**
Two divers conducted a dive to a maximum depth of 22m. One of the pair was slightly too buoyant and placed rocks in his BCD pockets to compensate. After about 30 min the buckle on the other diver's weightbelt came undone. She grabbed hold of the belt but one of the two weights fell off. The diver with rocks in his BCD took hold of her and helped her to swim back down to the lost weight. He tried to refit her weightbelt but the buckle had come off completely. At this point he ran low on air and switched to his second cylinder. The regulator let in some water and his mask came loose. The diver who had lost the weightbelt placed the weights in the pockets of her BCD and they began to ascend. At 12m their ascent rate increased and they made an uncontrolled ascent to the surface, missing a planned stop. Their dive duration was 34 min. One computer indicated a missed stop; the other did not. 6 hours later the diver who had been buoyant at the start of the dive suddenly felt sick and dizzy, he also noticed that his fingers were tingling. He went to hospital. He was placed on oxygen and taken by ambulance to a recompression facility where he received treatment. He was discharged the following day. His buddy did not experience any symptoms.

December 2003 **04/044**
Two divers started their ascent from 43m. At 20m they deployed a delayed SMB. Whilst doing so they sank back to 43m. They became short of air and surfaced missing decompression stops. One of the pair experienced 'pins and needles' in his legs and both were airlifted to a recompression chamber where they both received recompression treatment.

January 2004 **04/069**
A diver completed a dive to a maximum depth of 28m. After 29

min he ascended to 6m where he conducted a 6 min stop. 5 min after surfacing he developed a pain in his neck, had a loss of peripheral vision and his legs felt weak. He was placed on nitrox for 5 min and then oxygen for 10 min. His symptoms resolved. He sought medical advice and it was suggested that he should go home and make further contact if symptoms reoccurred. Later that day, his legs felt weak again and he had difficulty urinating. He went to a recompression chamber and received a series of treatments over a three day period. He was left with a residual neck pain and reduced feeling in his right leg.

January 2004 **04/401**

Dive support vessel called Coastguard reporting having a diver aboard with suspected DCI following a rapid ascent, believed equipment failure, airlifted to recompression chamber for treatment. (Coastguard report).

January 2004 **04/080**

Three divers conducted a dive to a depth of 20m. One of the three began to panic and made a rapid ascent to the surface. She was found to have a skin rash and pains in her knee joints. She was placed on oxygen and then airlifted to a recompression chamber for treatment where she made a complete recovery.

February 2004 **04/084**

A group of six students, two instructors, one dive marshal and an observer undertook a dive to 20m. At this depth one of the students started to panic and one of the instructors went to help. At this time the observer had a problem and made a rapid ascent to the surface, the last 10m of which may have been without a regulator in his mouth. This diver was placed on oxygen and then taken to hospital for examination for a potential DCI.

February 2004 **04/407**

Following a request from ambulance control, diver airlifted to recompression chamber for treatment after being admitted to hospital, Coastguard teams manned the helicopter landing site. (Coastguard report).

February 2004 **04/108**

Diver with suspected DCI, airlifted to recompression chamber for treatment by Coastguard. (Coastguard report).

March 2004 **04/408**

Brixham Coastguard tasked Plymouth Coastguard to investigate the report of a diver with suspected DCI, diver recovered to hospital by ambulance. (Coastguard report).

March 2004 **04/111**

A diver diving at a depth of 15m became disorientated and dropped to 23m. He then made a rapid ascent to the surface. The Coastguard was alerted and he was taken by ambulance to a recompression facility for treatment. (Media report).

March 2004 **04/120**

A diver conducted a dive to 30m for 43 min including a 3 min stop at 6m and a 6 min stop at 3m. 3 hours 13 min later he dived to 33 m for 15 min including a 4 min stop at 3m. The following day, 19 hours 19 min later he dived to 30m for 54 min including a 15 min stop at 5m. His final dive was 2 hours 48 min later to a depth of 28m for 39 min including a 3 min stop at 6m. 10 min after this last dive he noted a muscle pain in his shoulder; he thought that this was due to his heavy diving

equipment. 2 hours later the pain got worse and grew to include both shoulders. He was placed on oxygen. 5 hours later he noticed a rash on his left side. The shoulder pain had reduced to just one shoulder. The rash had gone by the following morning and the shoulder pain went after a further four days. He was advised by a diving doctor that he had had a mild DCI.

March 2004 **04/116**

A diver was airlifted to a recompression chamber for treatment after reporting that he felt unwell after a dive.

March 2004 **04/412**

Diver complained of tightness and coughing on breathing and coldness following two dives, casualty airlifted to recompression chamber for treatment. (Coastguard report).

March 2004 **04/411**

Portland Coastguard tasked Coastguard rescue helicopter R-IJ to recover a diver suffering from suspected DCI and transport to chamber for treatment. Poole Coastguard tasked to assist at the helo landing site. (Coastguard and RNLI reports).

April 2004 **04/166**

Two divers conducted a dive to a maximum depth of 28m. The dive leader was using a rebreather. The other diver, who had an open circuit set, was observed to be using air at an elevated rate. When he reached 100 bar they decided to return to the shotline to ascend. They were not able to find the shotline so, as planned, they started to deploy delayed SMBs. The dive leader deployed his SMB but the other diver had some difficulty with his reel. The dive leader assisted him and noted that he only had 50 bar remaining. They started their ascent. At 18m the dive leader felt a tug on his SMB line and this started a buoyant ascent which he was not able to control. He was carried to the surface and his buddy went with him. He believes that the rebreather injected oxygen during the ascent thus adding to his buoyancy control problems. His total dive time was 24 min and he ascended from 16m to the surface in 1 min. Climbing the ladder to get into the boat the dive leader felt weak. He reported their fast ascent and they were placed on oxygen. He noted a tingling in the big toe of his left foot and a rash on his chest. The Coastguard was alerted and once ashore the diver was taken by ambulance to a recompression facility where he was treated for DCI. It was recommended that he be tested for a PFO.

April 2004 **04/365**

A pair of divers entered the water from an RHIB. They were down current of the shot buoy and had to swim hard to get to it. They started their descent and one of the pair felt uncomfortable as they went down the shotline. Once on the wreck he realised that he had forgotten to put his ankle weights on. When they made their ascent this diver started to have buoyancy control problems. At 19m he felt very light. His buddy attempted to control the ascent but at 15m they lost control completely and the buoyant diver rose rapidly to the surface, missing decompression stops. His buddy ascended at a normal rate. The buoyant diver was recovered into the boat and placed on oxygen. He reported having a pain in his left biceps. The Coastguard was alerted and the diver and his buddy were airlifted to a recompression facility. The buoyant diver was given recompression treatment.

April 2004 **04/190**

A diver dived to a maximum depth of 44m for a total dive time of 36 min. At the end of his dive he took 9 min to ascend from

15m to the surface. 1 hour 26 min later he dived to 31m for a total dive time of 39 min including a 3 min stop at 5m and a 1 min stop at 3m. 1 hour later he started to feel dizzy and he developed tunnel vision. He was taken to a recompression facility and received six sessions of treatment over a five day period for a vascular DCI.

April 2004 04/169

An instructor and a trainee conducted a drift dive to a maximum depth of 11m. After 28 min the instructor signalled the ascent. The trainee was slightly above the instructor and she started to make a rapid ascent. The instructor took hold of her to slow her ascent. The trainee panicked and fully inflated her BCD. Both divers were carried to the surface at a fast rate. 2 hours after the dive, the instructor felt a slight pain in his knee. He reported to a recompression facility and received two treatments for DCI over a 2 day period.

April 2004 04/138

Two divers completed a 41 min dive to 36m with a 2 min safety stop at 3m. Shortly after leaving the water one of the pair felt dizzy and was sick. He was placed on oxygen and then taken by ambulance to hospital. From hospital he was taken to a recompression facility for treatment.

April 2004 04/366

A diver completed a dive to a maximum depth of 14m. He experienced problems with his buoyancy control and he made multiple rapid ascents to 6m. At one point he ascended from 10m to the surface. His dive duration was 37 min. The following morning he noticed that his upper left arm was sore. Later that day his arm began to go numb, it felt alternately hot and cold and he had a tingling in the fingers of his left hand. He sought diving medical advice and went to a recompression facility the following day where he was treated for a spinal DCI.

April 2004 04/417

Diver complained of feeling unwell sickness and 'pins & needles' following a rapid ascent. Condition improved shortly after surfacing. (Coastguard report).

April 2004 04/415

Dive support vessel contacted Coastguard reporting having a diver aboard reporting symptoms of DCI. Coastguard helicopter scrambled, casualty airlifted to recompression chamber for treatment, Coastguard rescue team attending. (Coastguard report).

April 2004 04/146

Two divers surfaced too quickly after a dive and were airlifted to a recompression facility where they received treatment. (Media report).

April 2004 04/354

A diver conducted a dive to 26m for 30 min with a 2 min stop at 6m. 16 hours later he dived to 28m for 28 min with a 2 min stop at 6m. 4 hours later he dived to 30m for 30 min with a 2 min stop at 6m. During this last dive he dived 2m deeper for 3 min longer than he planned. Later he developed DCI and was given recompression treatment. He had had a DCI three years earlier.

April 2004 04/416

Dive support vessel reported having two divers aboard suffering from suspected DCI following a dive to 26m. Missing a decompression stop on ascent, airlifted to recompression

chamber for treatment. (Coastguard report).

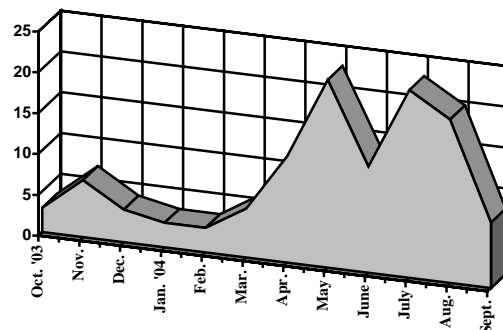
April 2004 04/149

A trainee diver was on his second open water dive. He entered the water from a jetty with an instructor. They descended to 4m and conducted a buoyancy control check. They then surfaced, collected an SMB and started their dive. They dived to a maximum depth of 9m and, after 32 min they made an unplanned ascent to the surface because the trainee lost control of his buoyancy. They re-descended and continued the dive. At 6m they conducted mask and regulator clearing drills. They then made a faster than normal ascent to the surface. Their dive time was 47 min. Later that day, back home, the trainee experienced a tingling and pain in his arm. He contacted a recompression facility and then attended the facility for recompression treatment for DCI.

April 2004 04/151

Two divers completed a 32 min dive to a maximum depth of 32m with a 9 min stop at 6m. During the dive they ascended from 32m to 6m and then went back down to 26m. One of the pair stated that he experienced nitrogen narcosis during the dive and, an hour after surfacing, he began to feel unwell. He was placed on oxygen and the emergency services were alerted. His condition continued to deteriorate and he lost coordination and sight. He was airlifted to a recompression facility where he received two sessions of treatment for a cerebral embolism. Prior to the dive the casualty suffered from a lack of sleep, dehydration and a headache for which he had taken painkillers 2 hours before the dive.

Decompression incidents by month



May 2004 04/422

Brixham Coastguard tasked Plymouth lifeboat to the wreck of the Sylla following a report of a diver suffering from suspected DCI recovered to Plymouth met by ambulance for transportation to the DDRC Plymouth for treatment, subsequently was monitored given oxygen and water. (Coastguard report).

May 2004 04/155

A diver suffering from DCI was airlifted to a recompression facility for treatment. (Media report).

May 2004 04/160

A diver surfaced with a nose bleed. The Coastguard was alerted and the diver was airlifted to hospital and then transferred to a recompression facility. (Media report).

May 2004 04/425

Diver contacted Coastguard reporting buddy diver was showing signs of DCI, following a dive earlier that day. The diver was recovered by land ambulance and taken to recompression chamber for treatment. (Coastguard report).

May 2004 04/162

A diver suffering from suspected DCI was airlifted to a recompression facility for treatment. (Media report).

May 2004 04/161

A diver surfaced from a wreck dive and developed symptoms of DCI. She was brought ashore and then taken by ambulance to a recompression facility for treatment. (Media report).

May 2004 04/321

A pair of divers conducted a dive to 39m for 60 min including a 14 min stop at 3m. 4 hours 30 min later they dived to 34m. During the ascent from this dive, at a depth of 6m one of the pair moved from a horizontal to a vertical position. He then lost control of his buoyancy and was carried to the surface. His buddy could see that he was safe at the surface so he completed the required stops. The diver who had made the buoyant ascent was recovered into the boat and placed on oxygen. He reported a tingling sensation in his right forearm. The Coastguard was alerted and the divers returned to shore where they were met by an ambulance. The diver and his buddy were taken to a recompression facility. The diver who had made the buoyant ascent was treated; his buddy was not. The diver had been wearing a new, thick, undersuit and his drysuit had a small, shoulder-mounted dump valve. It is thought that as he moved into a vertical orientation the shoulder straps of his BCD restricted the air flow inside the suit and thus he was not able to vent sufficient air. He was using a heavy, twin cylinder set.

May 2004 04/430

Dive support vessel contacted Coastguard reporting having a diver aboard suffering from suspected DCI, following a Medi link call to diving doctor the diver was met by ambulance and transferred to recompression facility for treatment. Symptoms skin rash on torso, migraine and tingling in eye. (Coastguard report).

May 2004 04/431

Dive support vessel contacted Portland Coastguard reporting having a diver aboard suffering from DCI, diver and buddy airlifted to recompression chamber for treatment by Coastguard rescue helicopter. (Coastguard report).

May 2004 04/205

Three divers completed a 30 min dive to 33m including a 1 min stop at 6m. Once out of the water one of the divers became ill and was unsteady on his feet. He was placed on oxygen and after 20 min he had recovered. He put his illness down to being rushed before the dive and declined the offers of further assistance or medical advice. Later the diver was taken to a recompression facility where he was treated for a spinal DCI and bladder problems.

May 2004 04/183

A diver conducted a 40 min dive to 21m with a 4 min stop at 6m. 1 hour 40 min later he dived to 12m for 23 min with a 3 min stop at 6m. During the journey home he felt a minor itching. Later that evening he experienced 'pins and needles' and further itching. An hour later he developed a chest pain, light-

headedness, dizziness, 'pins and needles' and a pain in his back. He sought medical advice by phone and was advised to attend a recompression facility. He received two sessions of recompression therapy. Dehydration was thought to have been a contributing factor.

May 2004 04/438

MRSC Humber received a call on VHF channel 16 from a dive support vessel reporting having a diver feeling unwell following a dive to 32m. A medi link call was established and upon medical advice casualty was airlifted to recompression chamber for treatment, RAF helicopter recovering casualty Coastguard team manning the landing site. (Coastguard report).

May 2004 04/177

A diver conducted a 30 min dive to a wreck at a depth of 50m. During his ascent he switched breathing gases. His buddy then saw him convulse and spit out his regulator. He then made a free ascent to the surface missing 40 min of decompression. He was unconscious at the surface. He was recovered into a dive boat and placed on oxygen. The Coastguard was alerted and a helicopter, which was on route to another incident (04/176 refers), was diverted to airlift him to hospital. The diver quickly recovered consciousness and was subsequently treated for a 'skin bend'.

May 2004 04/367

A diver dived solo to a maximum depth of 55m using trimix 16/40. During his ascent he stopped for 2 min at 40m, 2 min at 30m, 1 min at 23m, 8 min at 9m and 25 min at 6m. The stop at 6m was conducted using nitrox 80. During this stop he experienced a severe burning sensation on breathing. Then he felt a 'wave of heat' in his legs and some numbness in his feet. He finished his decompression and the symptoms resolved. Later that evening he had difficulty walking and urinating and he had a pain in his lower back. He received recompression treatment and had a brief spell in hospital.

May 2004 04/299

A diver conducted a dive to a depth of 25m. He lost control of his ascent at 18m, recovered, then lost it again at 13m and made an uncontrolled ascent to the surface. His buddy made a normal ascent with a 2 min safety stop at 6m. The diver who had made the uncontrolled ascent was recovered into the boat. He complained of 'pins and needles' in his right hand and was placed on oxygen. His dive time was 30 min. He was pale and nauseous. The Coastguard was alerted and the diver and his buddy were airlifted to a recompression facility. The diver was successfully recompressed; the buddy required no treatment. This diver had had a DCI a year earlier.

May 2004 04/176

Two divers surfaced, missing decompression stops, after a dive to 28m. The Coastguard was alerted and a helicopter was tasked to airlift them to a recompression facility. On route, the helicopter was diverted to another incident (04/177 refers) so a lifeboat was tasked with bringing the divers ashore. The helicopter then returned and airlifted the divers from the shore to a recompression facility for treatment. (Coastguard and RNLI reports).

May 2004 04/540

The Coastguard received a call from a dive boat with two divers suffering from DCI. The divers were airlifted to a recompression facility for treatment. (Coastguard report).

May 2004 04/197

A diver using a rebreather with trimix, dived to 20m for a total duration of 6 min. 18 min later he dived to 35m for 31 min including a 2 min stop at 12m and a 2 min stop at 6m. The following day he dived to 22m for 66 min including a 13 min stop at 4m. The day after that he dived to 31m for 29 min including a 2 min stop at 7m. He felt unwell after the last dive but he put this down to a hangover. The next day he still felt sick and he then noticed a slight tingling in his face and left arm. He thought that this was due to sunburn. The following day his condition worsened slightly and he suffered from slight visual disturbances. He contacted a recompression facility and received a series of nine recompression treatments for DCI. He was left with residual symptoms that were expected to slowly resolve. Dehydration and tiredness were thought to be contributory factors.

May 2004 04/245

A diver conducted six dives over a three day period. On the first day he dived to 31m for 35 min with a 3 min stop at 6m, and to 20m for 47 min with a 3 min stop at 6m. On the second day he dived to 30m for 59 min with a 16 min stop at 6m, and to 16m for 30 min with a 3 min stop at 6m. On the final day he dived to 31m for 36 min with a 2 min stop at 6m, and to 21m for 29 min with a 2 min stop at 6m. He had a surface interval of 90 min between these last two dives. About 1 hour after his last dive he started to feel unwell and he developed a rash on his shoulder. He was placed on oxygen and advice was sought by phone. He was taken to a recompression facility where he was given a 5 hour treatment and a further 1 hour 30 min treatment the following day.

May 2004 04/226

A diver conducted a dive to 19m for 33 min with a 3 min stop at 6m. The following day, 20 hours later, she dived to 18m. During the dive her buddy indicated that she was out of air and she donated her alternative air source. She then found that her buddy's cylinder valve was not turned on properly. She turned the valve on and the buddy switched back to her own regulator. They decided to terminate the dive and made their way to the shoreline. They struggled to conduct a 3 min stop at 6m due to wave action. They surfaced after 25 min and the boat returned to the shore. Once ashore they removed their diving kit from the boat which involved significant effort. A little later the diver noticed that her vision was impaired and she felt dizzy and light-headed. She drank some water and sought advice from other members of her party. She was placed on oxygen and the Coastguard was alerted. The diver was taken by ambulance to a recompression facility where she was treated over a period of several days for a DCI sited in her cerebellum. Subsequent tests revealed that this diver has a PFO. She reported that she had started her period on the day of the subject dive.

June 2004 04/194

A diver dived to a maximum depth of 37m for 79 min, including a 2 min stop at 9m and a 40 min stop at 6m. 30 min after surfacing his left arm started to ache and it became painful after 2 hours. The next day it felt the same and he sought medical advice. He went to a recompression facility where he received two sessions of recompression therapy for DCI.

June 2004 04/187

A diver suffering from DCI was taken by ambulance to a recompression facility for treatment. (Media report).

June 2004 04/227

A diver completed a dive to 30m for a duration of 72 min including a 2 min stop at 17m, a 2 min stop at 15m and a 25

min stop at 3m. After a surface interval of 2 hours 4 min he dived again. The second dive was to 20m for 41 min including a 3 min stop at 6m. After removing his kit from the boat he noticed a pain in his left shoulder. Initially he put this down to a muscular strain. Nine months earlier he had had a suspected DCI diagnosed as a strain. The following morning the symptoms remained and he sought medical advice. He received two sessions of recompression therapy over a two day period. The symptoms remained but medical opinion was that he had had a DCI. Physical exertion before and after the dive was believed to have contributed.

June 2004 04/191

A diver completed a 46 min dive to a maximum depth of 24m with a 3 min stop at 6m. During the dive he was slightly over-weighted and had to fin harder than normal. The majority of the dive was spent at 15m and, at the end of the dive, his computer indicated 30 min of no-stop time remaining. At the surface the diver developed a headache and began to feel nauseous. 10 min later he appeared very pale and his headache was severe. He was placed on oxygen. 20 min later he noticed a numbness in his right hand. Medical advice was sought by phone and the Coastguard was notified. He was taken by helicopter to a recompression facility where he was treated for a neurological DCI. He was discharged the following day, symptom-free.

June 2004 04/355

A diver completed a 76 min dive to 51m including the following stops; 2 min at 24m, 3 min at 21m, 2 min at 19m, 2 min at 15m, 4 min at 12m, 5 min at 9m, 20 min at 6m and then 5 min to the surface. 17 hours 26 min later he dived again to 51m for 75 min including the following stops; 2 min at 24m, 3 min at 21m, 2 min at 18m, 2 min at 15m, 4 min at 12m, 5 min at 9m, 24 min at 6m and then 5 min to the surface. After this dive he felt a tingling sensation in the two middle fingers of his right hand. He removed his drysuit and the feeling disappeared. 1 hour 45 min after the dive he experienced brief periods of blurred vision. 4 hours later he noticed a pain in a finger of his right hand. He also developed a pain in his right shoulder. He sought diving medical advice and went to a recompression facility where he was treated for DCI. He received two further recompression treatments and was left with a numbness in two middle fingers.

June 2004 04/547

A diver conducted a series of ten dives over a five day period. The tenth dive took place after a 4 hour surface interval. This dive was to a maximum depth of 27m. She lost control of her buoyancy during the ascent at a depth of between 15 and 10m. She attempted to fin back down but the air migrated in her drysuit and she was carried, inverted, to the surface. She quickly re-descended to join her buddy and they ascended together. Shortly afterwards the diver noted a pain in her right shoulder. This was thought to be a muscular strain. Later that day the symptoms resolved. The following day the symptoms returned and she sought medical advice. She was recompressed and the symptoms resolved.

June 2004 04/446

Dive support vessel contacted Solent Coastguard reporting having a diver aboard suffering from suspected DCI. A med link was established, doctor recommended evacuation. Solent Coastguard scrambled Coastguard rescue helicopter R-IJ recovering casualty to recompression chamber for treatment. (Coastguard report).

June 2004 04/445

Falmouth Coastguard received a call from dive vessel reporting having a diver aboard suffering from suspected DCI following a dive to 72m. A medi link was established the doctor recommended evacuation of the casualty to recompression facility. Falmouth Coastguard scrambled Royal Navy helicopter R-193. Penzance Coastguard attending to obtain details. (Coastguard report).

June 2004 04/213

Two divers conducted a 34 min dive to 25m including a 4 min stop at 6m. 1 hour 39 min later they made a second dive. During the descent the dive leader noticed that the other diver was slow to descend and was having problems with his ears and with dumping air from his BCD. They reached a maximum depth of 24m and then moved up to 20m. The other diver signalled that he had a problem with his weightbelt and the dive leader helped him refit it correctly. Towards the end of the dive they prepared to deploy a delayed SMB but had to move when they spotted a large lion's mane jellyfish directly above them. The dive leader deployed the SMB and then lost control of his buoyancy at 12m and was carried rapidly to the surface. His dive duration was 27m. The other diver followed making a normal ascent. At the surface the dive leader had a severe headache. The divers were recovered from the water. The dive leader was dizzy and disorientated; he was placed on oxygen and the emergency services were alerted. They returned to harbour and were transported by the RNLI and helicopter to a recompression chamber. The dive leader was recompressed and released the following day. The other diver was released without recompression treatment.

June 2004 04/356

A diver conducted a 57 min dive to 36m including a 25 min stop at 6m. 2 hours 3 min later he dived to 27m for 40 min including a 7 min stop at 5m. 18 hours 13 min later he dived to 32m for 60 min with a 1 min stop at 15m and a 20 min stop at 4m. He used nitrox 40 for decompression. During this dive he became separated from his buddy during the descent because a current swept him away from the shotline. He surfaced, was towed by the boat back to the shotline, and he re-descended to join his buddy who was waiting at the bottom of the shotline. After this dive he noticed a 'twinge' in his shoulder but thought that it was a muscular strain. After a surface interval of 2 hours 20 min he dived to 22m for 26 min including a 2 min stop at 4m. After this dive he again noticed the pain in his shoulder. 1 hour later the pain had increased and he was placed on oxygen for 5 min. A few hours later the pain had become severe and he sought advice from a recompression facility. He received recompression treatment.

June 2004 04/449

Dive support vessel requested assistance for a diver suffering from suspected DCI, casualty airlifted to recompression chamber by Coastguard rescue helicopter R-WB. (Coastguard report).

June 2004 04/454

ARCC Kinloss informed MRSC Humber of a transfer by aircraft of a diver to recompression chamber for treatment, Coastguards from Hull and Newbiggin making ready the helicopter landing sites. (Coastguard report).

June 2004 04/247

A diver conducted a 34 min dive to a maximum depth of 30m including a 2 min stop at 6m. About 45 min after the dive he started to feel dizzy. He was placed on oxygen and taken to hospital. At hospital he was found to be disorientated and he developed short term amnesia. He was airlifted to a

recompression facility for treatment. He was found to have a right inner ear barotrauma and a probable arterial gas embolism was diagnosed.

July 2004 04/337

Two divers conducted a dive to a maximum depth of 40m. During the ascent, at a depth of 7m, one of the pair ran out of air and made a rapid ascent to the surface missing decompression stops. His dive duration was 25 min. He was unconscious on arrival at the surface. Another diver entered the water to assist and the casualty and his buddy were recovered into the boat. The casualty was not breathing. Oxygen-assisted AV was applied and the casualty started to breathe by himself and then to regain consciousness. The Coastguard was alerted. The casualty was transferred into a lifeboat and then he and his buddy were airlifted to a recompression facility.

July 2004 04/231

A diver surfaced from a 36m dive, missing 16 min of decompression stops. The Coastguard was alerted and the diver was placed on oxygen. The diver was brought ashore and then taken to a recompression facility for treatment. (Coastguard report).

July 2004 04/238

Following a 28m dive for 30 min a female diver returned to shore where her condition gave cause for concern, administered oxygen symptoms nausea, light-headed, headache. Dive skipper contacted Falmouth Coastguard, following medical advice was taken to DDRC Plymouth by RN rescue helicopter, attended by Penzance Coast Rescue Team and ambulance. (Coastguard report).

July 2004 04/456

Dive vessel contacted Portland Coastguard reporting having a diver aboard suffering from suspected DCI following a dive to 84m, Portland Coastguard rescue helicopter was scrambled taking the casualty to recompression chamber for treatment, Poole Coastguard team made ready the landing site. (Coastguard report).

July 2004 04/273

A diver completed a 75 min dive to a maximum depth of 6m. 2 hours 42 min later he dived again to 6m for 31 min. After this second dive he felt unwell, sick, and he had slight 'pins and needles' in his hands and feet. He was placed on oxygen for 20 min and he felt better. When taken off the oxygen he started to feel unwell again. He was taken by ambulance to hospital where he was placed on oxygen for 4 hours and given a fluid drip. He was discharged from hospital later that day. Tiredness and lack of fluids and food were thought to have been contributory factors.

July 2004 04/242

A diver suffering from severe back pains was airlifted to a recompression facility for treatment. (Media report).

July 2004 04/274

A diver conducted a 33 min dive to a maximum depth of 35m with a 4 min stop at 6m. 3 hours 36 min later she dived again. The second dive was to 25m for 41 min with a 3 min safety stop at 6m. 30 min after surfacing from the second dive she felt a bruise-like pain in her left shoulder. 20 min later a rash had spread across her left shoulder and down her arm. She was placed on oxygen for 30 min and this eliminated the pain and most of the rash. Medical advice was sought by phone and the

diver went to a recompression facility where she received recompression treatment. After the treatment she was symptom-free. Pre-dive tiredness may have been a contributory factor.

July 2004 04/458

Two divers ascended from 43m with insufficient air missing stops, one arriving on the surface unconscious, with a weak pulse non breathing, administered oxygen, Humber Coastguard alerted who tasked Hartlepool inshore lifeboat and rescue helicopter R-128 from RAF Leconfield, casualty and buddy airlifted to recompression chamber for treatment, Hull Coastguard rescue team assisted with the helicopter landing site. (Coastguard report).

July 2004 04/243

Falmouth Coastguard received a call reporting a diver with suspected DCI, a medi link with a diving doctor was established recommending evacuation to a recompression chamber for treatment, diver airlifted from beach to the DDRC in Plymouth. (Coastguard report).

July 2004 04/289

A diver completed a series of twelve dives over a six day period. All dives were conducted on nitrox 30 and limited to a maximum depth of 36m. The following morning, 15 hours after his last dive, the diver awoke with a strange sensation in the little finger of his left hand. He contacted the Coastguard and was referred to a recompression facility where he received treatment which resolved his symptoms.

July 2004 04/372

A diver conducted a dive to 34m for 39 min including a 12 min stop at 6m. 6 hours 45 min later she dived to 29m for 22 min with a 3 min safety stop at 6m. She was recovered into the boat and then she felt a sudden pain in her back. She was placed on nitrox 65. She then noticed a tingling in her thigh. The boat's radio seemed faulty and they could not contact the Coastguard. They returned to shore and contacted the Coastguard by phone. The diver was taken by helicopter to a recompression facility for treatment. It was later discovered that this diver had a PFO and was awaiting corrective surgery.

July 2004 04/303

A diver conducted a dive to 30m for 33 min including a 3 min stop at 5m and a 1 min stop at 3m. Shortly after the dive he developed a pain in his back which he initially thought was due to a muscle strain. He lay down in the boat. He then developed 'pins and needles' in his stomach. He was placed on oxygen and the Coastguard was alerted. The boat was instructed to rendezvous with a lifeboat, but sea conditions slowed their progress. The casualty became violently sick. A helicopter was tasked to recover the diver who was airlifted, with his buddy, to a recompression facility. The diver received a series of recompression treatments over a period of seven days. He was left with total deafness in his right ear and disturbed balance. He was advised not to dive again.

July 2004 04/250

The Coastguard was alerted when a diver complained of loss of feeling in her legs and difficulty breathing. She was airlifted to a recompression facility for treatment. (Media report).

July 2004 04/294

A diver made a 45 min dive to 22m with a 2 min stop at 6m. 18 hours later he dived to 30m for 34 min with a 4 min stop at 6m. Once back on the boat he felt an ache across his chest. This

symptom slowly got worse. After removing his dive suit he felt slightly unsteady on his feet. He sat down and started to feel very unwell. When he tried to stand he found that he was unable to use his legs and he was laid down and placed on oxygen. The Coastguard was alerted and the diver was airlifted to a recompression facility. He received an 8 hour recompression treatment followed by a 6 hour treatment on the following three days. At the end of this treatment he had partially regained the use of his legs. For the next four weeks he received a 2 hour treatment twice a day each day. At the end of this time he was able to walk but not run. It was anticipated that full recovery would take a further two years.

July 2004 04/301

A diver completed a 71 min dive to 34m including a 1 min stop at each of 15m, 12m and 9m and an 18 min stop at 6m. 21 hours later he dived to 34m for 72 min with a 1 min stop at each of 15m, 12m and 9m and a 24 min stop at 6m. He was using nitrox 32 for both dives. Later that night he felt tired and had lost his appetite. The next morning he still felt unwell; he was light-headed and had memory loss. He sought diving medical advice and went to a recompression facility. He received a 6 hour treatment which resolved his symptoms.

July 2004 04/262

A diver conducted a dive to 59m using 18/45 trimix. His dive duration was a total of 84m. His decompression stops involved the use of 100% oxygen. 24 hours later he dived, with two others, to a depth of 61m. All three divers used 18/45 trimix. After 25 min they deployed a delayed SMB and started their ascent. They made a 1 min stop at each of 36m, 33m, 30m and 27m and a 3 min stop at 24m. They then switched to nitrox 50 and made a 5 min stop at 21m, 3 min stops at each of 18m, 15m and 12m and a 6 min stop at 9m. Their final stop was for 20 min at 6m on 100% oxygen. 10 min after having re-boarded the boat one of the three noticed a dead feeling in his left shoulder and down to his elbow. He was placed on oxygen and given water to drink. The boat returned to the shore and the diver was taken to a recompression facility. No DCI was found but, because his arm symptoms had improved with oxygen, he was given a precautionary recompression treatment. The diver had suffered a DCI incident two years earlier. It was subsequently found that his dive gas actually contained 16.6% oxygen. It was thought that dehydration may have been a contributory factor.

July 2004 04/244

A diver completed a dive to a maximum depth of 36m. His dive time was 58 min including a 1 min stop at 15m, a 1 min stop at 12m, a 2 min stop at 9m and a 6 min stop at 6m. He was using nitrox 28. About 70 min after the dive he noticed a rash on his right shoulder and shoulder blade. The skin was tender in this area. 15 min later the rash had spread, become deeper in colour and his skin texture had a 'bubbling'. He was placed on oxygen and the Coastguard was alerted. The casualty was given water. He was airlifted to a recompression facility where he received a 6 hour treatment. His symptoms fully resolved within the first hour.

July 2004 04/463

Dive support vessel contacted Portland Coastguard reporting having a diver aboard suffering from suspected DCI, Portland Coastguard rescue helicopter was scrambled airlifting casualty to recompression chamber for treatment. (Coastguard report).

July 2004 04/246

Diver ascended rapidly from a 30m due to problem deploying SMB missing 5 min of stops, re-descended to complete a

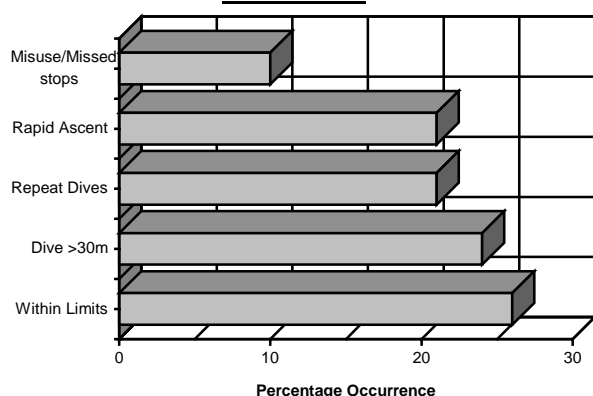
further stop at 9m, reported to be shivering and confused, airlifted to recompression chamber for treatment.

July 2004 **04/278**
 Two divers were diving on a wreck. One of the pair ran out of air and his buddy brought him to the surface, making a rapid ascent. At the surface the diver who was out of air was found to be unconscious and his buddy was suffering DCI. They were recovered into their boat and the Coastguard was alerted. The two divers were airlifted to the shore and taken to hospital. Both were reported to be recovering. (Media report).

July 2004 **04/466**
 Dive support vessel contacted Brixham Coastguard reporting having a diver aboard suffering from suspected DCI following a dive to 20m, diver ran out of air whilst descending to find missing camera, making a rapid ascent to the surface, casualty airlifted to recompression chamber for treatment by RN helicopter, met at airport by ambulance. (Coastguard report).

July 2004 **04/305**
 A diver conducted a dive to a maximum depth of 40m. With 120 bar remaining he started a slow ascent to 6m where his computer indicated a 3 min stop. When this was completed his buddy's computer indicated that a further 1 min was required. They completed this additional stop time and ascended to the surface. Once out of the water he walked up a slope and noticed that his chest felt tight and that he was breathing heavily. He dekked, unzipped his drysuit and sat down. After about 15 min his left lower leg went numb and he had 'pins and needles' in his right leg and left toes. Thinking that it might be poor circulation he removed his drysuit and undersuit. The condition in his left leg deteriorated, his thigh was numb and he was unable to feel the floor when he tried to stand. A recompression facility was contacted and the diver was placed on oxygen. He was airlifted to the recompression chamber where he was treated. He was kept in hospital overnight and discharged the following day.

Percentage analysis of factors involved in cases of DCI



August 2004 **04/472**
 Local dive vessel contacted Shetland Coastguard reporting having a diver aboard suffering from possible DCI, diver landed on the shore, met by land ambulance for transfer to recompression chamber for treatment. (Coastguard report).

August 2004 **04/544**
 A diver suffered symptoms of DCI but ignored them. He awoke partially paralysed the following day and was treated at a

recompression facility. (Media report).

August 2004 **04/542**
 A diver made a rapid ascent from 42m. He was placed on oxygen and the Coastguard was alerted. He was then taken to a recompression facility for treatment. (Media report).

August 2004 **04/475**
 Dive support vessel contacted Falmouth Coastguard reporting having a diver aboard suffering from suspected DCI following a dive to 64m for 34 min, casualty and buddy airlifted to DDRC Plymouth for treatment. (Coastguard report).

August 2004 **04/285**
 A pair of divers conducted a dive to a depth of 31m. As the end of their no-stop time approached they deployed a delayed SMB and started their ascent with a 1 min stop at 3m indicated by their computers. At 7m one of the pair lost control of her buoyancy and ascended to the surface without a stop. At the surface her computer indicated 5 min of missed decompression stops. Her buddy surfaced more slowly and his computer was clear. The diver who had made a rapid ascent was placed on oxygen and the boat returned to shore. Medical advice was sought and the diver was taken by ambulance to a recompression facility where she received two sessions of treatment for DCI.

August 2004 **04/296**
 A diver conducted a dive to 46m for a duration of 65 min including a 1 min stop at 9m, a 6 min stop at 6m and a 27 min stop at 3m. Shortly after this dive he noticed a tight sensation around the area of his left cuff seal and an ache in the biceps of his left arm. He thought that this was due to a pulled muscle. After a surface interval of 1 hour 41 min he dived to 30m for 18 min. The following morning he awoke with a pain in his arm muscle and a small circular rash at the base of his neck. He sought diving medical advice and went to a recompression facility where he received treatment. His symptoms improved and he had two further treatment sessions over the next two days.

August 2004 **04/343**
 A diver completed a series of six dives over a three day period. On the third day she dived to 29m for 28 min including a 5 min stop at 6m and, after a 3 hour 19 min surface interval, she dived to 18m for 31 min including a 6 min stop at 6m. Early the following morning she was woken up by pains in her ankles and elbows. These pains started to spread to other joints. She sought diving medical advice and went to a recompression facility. She received a recompression treatment and a further treatment the following day. She made a full recovery. Subsequent tests revealed that she had a PFO.

August 2004 **04/476**
 Following a dive to 27m a diver complained of having back pain and numbness in the legs, Milford Haven Coastguard tasked RAF Rescue helicopter R-169 to airlift casualty to chamber for treatment suggested buddy also go with casualty but declined. (Coastguard report).

August 2004 **04/468**
 Dive support craft contacted Humber Coastguard reporting having a diver aboard suffering from suspected DCI, diver conveyed to Hull hyperbaric chamber for treatment. (Coastguard report).

August 2004 **04/293**
 A diver suffering from DCI was airlifted to a recompression facility for treatment. (Media report).

August 2004 **04/311**
 A diver completed a 30 min dive to a depth of 36m. 2 hours later he dived to 12m for 32 min. The following day he dived to 44m for 31 min. 2 hours later he dived to 19m for 30 min. In all cases the decompression stops indicated by his computer were correctly carried out. Later that day a pain developed in his right shoulder. The following day he contacted a recompression facility and was advised to attend for examination. DCI was diagnosed and he was recompressed and had a further treatment the day after. His symptoms were fully resolved by the second treatment. His buddy conducted the same dives but experienced no problems.

August 2004 **04/480**
 Portland received a retrospective report from a doctor treating a diver with suspected DCI, medilink was established with the Poole chamber the chamber recommended transfer for treatment, Coastguard rescue helicopter R-WB recovered casualty to Poole for treatment. (Coastguard report).

August 2004 **04/357**
 Three divers conducted a wreck dive to a maximum depth of 33m. After about 18 min the computer of one of the three indicated that 2 min of decompression was required and they ascended to a high point of the wreck and deployed a delayed SMB. They ascended to 6m and carried out a precautionary 1 min stop. They then ascended to 3m and carried out a further stop of about 90 sec. About 3 min after having got back in the boat one of the three felt a slight 'stabbing' pain above his left temple. He then experienced dizziness and a severe weakness in his legs. He was laid down and placed on oxygen. The Coastguard was alerted and the diver and one of his buddies were airlifted to a recompression facility. Normal function had returned to the casualty's legs by the time he arrived at the chamber but he was given a precautionary treatment. Checks the following day indicated that no further treatment was required.

August 2004 **04/323**
 A lifeboat was launched to assist a diver who was thought to be suffering from DCI.

August 2004 **04/485**
 Diver made a rapid ascent from 18m after becoming entangled in a delayed SMB line, freed herself at 6m, surfaced, returned to the RHIB and ashore where the diver complained of 'pins and needles' in hands, placed on oxygen and contacted Falmouth Coastguard who scrambled Royal Navy helicopter R-193 to airlift casualty to the DDRRC Plymouth. (Coastguard report).

August 2004 **04/312**
 A diver collapsed with chest pains after a dive. She was taken to the shore by lifeboat and then to hospital by ambulance. She was treated for lung damage. (Media report).

August 2004 **04/488**
 Dive boat contacted Humber Coastguard reporting having a diver aboard suffering from suspected DCI following a rapid ascent due to out of air situation, a medi link call was established the doctor recommending an air evacuation to

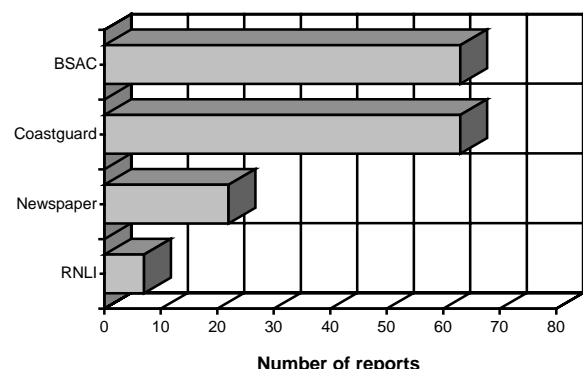
recompression chamber, Hull Coastguard team made ready the landing site, casualty transferred to waiting ambulance for transfer to the chamber. (Coastguard report).

August 2004 **04/492**
 Falmouth Coastguard received a call on VHF from diving support craft reporting position as 12 nm offshore, with a diver aboard suffering from suspected DCI after a dive to 60m. Medical advice was obtained from DDRRC Plymouth, Falmouth Coastguard scrambled RN Rescue helicopter R-193, the diver was airlifted to the DDRRC Plymouth where he was met by a waiting ambulance, Newquay Coastguard rescue team obtained details from dive vessel on return to shore. (Coastguard report).

August 2004 **04/494**
 Charter dive vessel reported to Belfast Coastguard having a diver aboard suffering from suspected DCI in the Sound of Mull. A medi link call was established the diver was transferred to hospital for treatment. (Coastguard report).

August 2004 **04/541**
 Following a dive on HMS Sylla a diver made a rapid ascent from 26m, casualty complained of having a severe headache, casualty met by ambulance and transferred to DDRRC Plymouth for treatment. (Coastguard report).

Decompression data source analysis



September 2004 **04/315**
 Diver made a rapid ascent from 17m following a dive to 42m. Following medical advice, casualty was airlifted to recompression facility for treatment, Poole Coastguard made ready the helicopter landing site, casualty taken by ambulance to chamber.

September 2004 **04/344**
 A diver completed a 28 min dive to 31m. 18 hours later he dived to 34m for 30 min including a 1 min stop at 18m and a 1 min stop at 6m. Both dives were with nitrox 30 and a computer set for air. Shortly after this second dive he noticed a tingling and numbness in his legs and buttocks. He was placed on oxygen and the Coastguard was alerted. The boat returned to harbour and the casualty was taken by ambulance to a recompression facility where he received treatment. His symptoms fully resolved.



September 2004 04/500

Following medical advice, Falmouth Coastguard tasked RN Rescue helicopter R-193 to recover a diver suffering from suspected DCI to recompression chamber. (Coastguard report).

September 2004 04/328

A diver made a fast ascent from 23m. He reported a tingling in his arms and legs. He was placed on oxygen and the Coastguard was alerted. An ambulance and a helicopter attended. The casualty was taken by ambulance to hospital for treatment. (Coastguard report).

September 2004 04/504

Forth Coastguard co-ordinated the evacuation of a diver from a dive vessel suffering from suspected DCI, the casualty was transferred to Aberdeen Royal Infirmary, following medical advice given by them. (Coastguard report).

September 2004 04/332

A diver suffering from DCI was airlifted to a recompression facility for treatment. (Media report).

September 2004 04/506

Dive vessel contacted Shetland Coastguard reporting a diver aboard suffering from suspected DCI, the casualty was met by an ambulance and transferred to hyperbaric chamber for treatment. (Coastguard report).

September 2004 04/509

Portland Coastguard scrambled Coastguard rescue helicopter to a dive RHIB reporting having a diver aboard suffering from suspected DCI, diver airlifted to recompression chamber for treatment. (Coastguard report).

September 2004 04/351

A diver conducted a 24 min dive to 40m with a 4 min stop at 5m. 1 hour after surfacing he felt an itching on his shoulder and it was found to be red. He sought medical advice and was placed on oxygen. He went to a recompression facility for treatment. A PFO was suspected.

Injury / Illness

October 2003

04/009

Two divers completed a 24 min dive to 22m. Shortly after surfacing one of the pair began to feel dizzy, light-headed and disorientated. She was placed on oxygen and taken to hospital from where she was discharged that evening. It is thought that she had an ear problem.

October 2003

04/010

Two divers completed a 17 min dive to 18m with a 3 min stop at 5m. Shortly after leaving the water one felt sick, dizzy and disorientated. He sought medical advice and was taken by ambulance to hospital. He was placed on oxygen for 6 hours and then discharged. This diver had experienced similar problems on previous dives. He was advised to obtain a full diving medical before further dives.

October 2003

04/510

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

October 2003

04/061

A trainee diver began a descent. At about 4m he had trouble clearing his ears. Then his right ear 'went pop' and he felt very dizzy and could not keep his balance. His buddy steadied him and helped him to settle on the seabed at 14m. After 15 min they made their ascent and got back into the boat. The trainee was immediately sick. Once ashore he needed help to change out of his diving kit. He still felt nauseous and his right ear had no feeling in it. He was taken to hospital and underwent a series of tests. He was released two days later, but was still experiencing hearing and balance problems.

October 2003

04/388

Dive support vessel contacted Coastguard to inform that they had a diver aboard suffering from a suspected broken ankle, casualty was met by Coastguard team and ambulance for transfer to hospital. (Coastguard report).

October 2003

04/018

A group of three divers began a dive. Two entered the water from a boat and the third then rolled in backwards and landed on top of one of the others. They checked each other and then conducted the dive. Once back on the boat blood was seen coming from under the hood of the third diver and a large lump was observed on the side of his head. The emergency services were alerted by radio and the diver was met by a doctor when they got back to the shore. At this point the diver's hood was removed and four stitches were required to close the wound to his head.

October 2003

04/104

Two divers dived to a depth of 36m. One of the divers then indicated that he had 100 bar remaining. As planned they started their ascent following a slope upwards. At 26m the diver indicated that he was down to 50 bar and the dive leader then decided to ascend directly to the surface. The last 10m of their ascent was un-controlled and fast. Shortly after leaving the water the dive leader complained of severe chest pains. He was placed on oxygen and taken by ambulance to hospital. It was later determined that he had suffered a heart attack. His buddy had been using a relatively new drysuit and felt that he may have been over-weighted leading to his high air consumption.

October 2003

04/065

A diver made a dive to 7m for 43 min. At the end of this dive she had a slight headache. 2 hours later she dived to 18m for 36 min with a 3 min safety stop at 6m. After this dive she had a long surface swim to get out of the water. During this swim she began to feel ill. Once out of the water she felt dizzy, shaky and nauseous. The diver was placed on oxygen for 30 min which helped her to recover. It is believed that the air in her diving cylinder contained a pollutant.

November 2003

04/513

Two lifeboats launched to help two divers with illness. (RNLI report).

November 2003

04/027

A diver was recovered unconscious from the surface and resuscitation techniques were applied. She was airlifted to a recompression facility and later released from hospital. (Media report).

December 2003

04/074

A diver completed a dive to a maximum depth of 35m. She spent 6 min at this depth and then made a gradual ascent to the surface, for a total dive time of 34 min. About 30 min after the dive she noticed 'pins and needles' in her left foot. The condition rapidly progressed and her left and right legs became numb. She was helped out of her diving suit and placed on oxygen. After 30 min the feeling rapidly returned to her legs. This diver suffers from arthritis in her right foot and has a slipped thoracic disc and spondylosis of the lumbar area. It was uncertain if the problem was diving related or associated with her medical condition. Further medical advice was being sought.

January 2004

04/072

A person participated in a try-dive session in a swimming pool. He was briefed on ear clearing techniques. He dived with an instructor and after some practice was taken to the deep end of the pool where the depth was 4m. They went back to the shallow end and then again to the deep end. The trainee was prompted to clear his ears each time he descended. On a third descent he indicated that he had a problem with one of his ears and he was led to the shallow end of the pool. The trainee stated that he felt slightly dizzy and nauseous. He was examined by his doctor and a perforated eardrum was diagnosed.

February 2004

04/075

A trainee diver completed a 28 min dive to a depth of 7m. 2 hours later he dived again, this time to 11m for 30 min. The following day he complained of 'pins and needles' in his elbows and wrists. Medical advice was sought and the diver was examined. It was concluded that this was not a case of DCI and no further action was taken.

February 2004

04/096

A trainee diver took part in a pool training session. At the start of the session she reported feeling unwell but insisted that she was able to continue. During the session she spent 20 min underwater to a maximum depth of 1.8m. Approximately 30 hours later she was admitted to hospital suffering from a shortness of breath and shoulder pains. She was diagnosed

with an unspecified embolism. She was discharged and then re-admitted the following day, again suffering from a shortness of breath. A blood clot on her lung was diagnosed. She had had a cold but was symptom-free when she trained. She had been a heavy smoker until two months before the incident. Following further tests she was diagnosed as suffering from pneumonia.

February 2004

04/109

Two divers undertook a dive to a maximum depth of 26m. They were breathing nitrox 27 and nitrox 34. At the end of the dive both divers deployed a delayed SMB to make their ascent. One of the pair indicated that she was going to make a 1 min safety stop at 6m. At this point the other diver experienced breathing problems and decided that she needed to go to the surface. At the surface her breathlessness became acute and she gave a distress signal to the boat. The other diver then surfaced and the distressed diver was assisted into the boat. On shore she remained very breathless, she was coughing up pink sputum and a bubbling sound could be heard from her chest as she breathed. She was placed on oxygen and medical advice was sought. She was diagnosed with pulmonary oedema by immersion. The diver recovered and no immediate medical assistance was required. This diver was taking a beta blocker called Propranolol and it was considered that this was the probable cause of the problem. The diver had previously been given the all clear to dive with this drug but recently the dosage had been increased.

March 2004

04/516

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

March 2004

04/121

A pair of divers completed a 30 min dive to 21m and were ascending. At 10m one of the pair developed a problem and swam rapidly to the surface. His buddy followed. At the surface the troubled diver was seen to be in distress and the alarm was raised. He was recovered from the water and was found not to be breathing. Resuscitation techniques were applied and he started to make a recovery. He was airlifted to hospital. It is reported that this diver had heart problems and that this may have been the cause of the incident.

March 2004

04/130

4 hours after diving to 20m for a duration of 35 min a diver felt unwell. His ascent had been a little fast at around 6m. At the surface he had been stressed and breathing heavily. He was placed on oxygen and made a recovery.

April 2004

04/131

A diver dived to 35m for 63 min including 20 min of decompression stops. He then made a second dive to 22m for 47 min including decompression stops. At 15m, on the second dive, he felt that his 'head was spinning'. He switched to an alternative air source and the problem resolved. On the way to the surface he switched back and the problem returned. The diver was convinced that the air in his main cylinder was contaminated. The air source was checked and found to be clean. The diver declined a test of the air in his cylinder. His buddy stated that this diver had had a problem with his ears on the second dive.

April 2004

04/132

A diver completed a 28 min dive to 21m. After surfacing he suddenly became dizzy and disorientated, and he felt cold. He was given oxygen and he quickly recovered.

April 2004

04/173

A diver completed a 23 min dive to a maximum depth of 15m. Towards the end of the dive the divers were within 6m of the surface and affected by swell. They tried to conduct a 3 min safety stop but the water movement made this difficult and one of the pair made a quicker than intended ascent to the surface. To compensate the diver made an additional safety stop on his second dive. Once ashore, after the second dive, he experienced a numb, tingling feeling in his right arm. This diver suffered from a pre-existing problem with a nerve in his neck and it was not certain if this was implicated. The diver was placed on oxygen and the emergency services were alerted. The diver was taken by ambulance to hospital. It was concluded that the diver did not have a DCI but that his neck complaint was the root cause. He was released from hospital later that day and advised to seek specialist advice on his neck before diving again.

April 2004

04/145

Two divers began their descent. One of the pair had problems clearing her ears and they made a very slow descent. At a depth of 6m she heard a 'large bang' in her ear. She and her buddy ascended slowly. She attended hospital where a perforated eardrum was diagnosed.

April 2004

04/518

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

April 2004

04/156

A diver conducted a 28 min dive to a maximum depth of 33m. 3 hours 27 min later, she dived again with two other divers. They dived, on a wreck, to a maximum depth of 25m. The diver was cold at the start of the dive and after 10 min she began to hyperventilate because she was cold. She tried to calm herself down. 5 min later she signalled to her buddies that she was cold but this signal was missed by the buddies and the dive continued. After a further 5 min she signalled again and they began to ascend back up the wreck towards the shotline. When she got to a depth of 12m she was hyperventilating again and she lost buoyancy control. She made a rapid ascent to the surface. At the surface she was in distress and was recovered into the boat. Her buddies did not see her ascend and made a quick search before making a normal ascent up the shotline. The distressed diver reported a slight pain in her left knee. She was placed on oxygen and the emergency services were alerted. Actions were taken to re-warm the diver and by the time they reached harbour her symptoms had resolved. No further action was taken.

April 2004

04/139

Three divers completed a 24 min dive to 19m with a 3 min stop at 6m. They terminated the dive early because they were cold. One of the divers complained of extreme cold once he was back on the shore. He was sent to get changed but was later observed sitting down, shivering. He was again advised to get changed but did not move. He suddenly became very weak and collapsed backwards. He was moved into a vehicle for shelter. A doctor on site thought that he was suffering from hypothermia. The casualty was given oxygen, others helped to change and dry him and wrapped him in an emergency blanket. He was on the verge of unconsciousness and an ambulance was called. He was recovering when the ambulance arrived. An air ambulance also arrived at the scene. However the casualty was found to be recovering well and he was taken back to his accommodation where he made a full recovery.

April 2004

04/141

Two divers completed a 30 min drysuit familiarization dive to a

depth of 19m. At the surface one of the pair had difficulty achieving positive buoyancy and appeared to panic. He turned grey and started to froth at the mouth. A rescue boat arrived and the casualty was found to have stopped breathing. He was recovered from the water and resuscitation techniques were applied. He was placed on oxygen and the emergency services were called. An air and a land ambulance responded. The casualty was taken by land ambulance to hospital from where he was released a day later. It is thought that health rather than diving issues were responsible. The diver stated that at the surface he had not been able to find his inflation valve and had panicked.

April 2004 **04/140**

A diver dived to 20m and later commenced a second dive. On the first dive he had problems clearing his ears but managed to do so. On the second dive he experienced ear problems again at a depth of 3m. He heard a 'strong pop' and his ear was painful. He aborted the dive. A discharge was seen coming from his ear. He went to hospital and a ruptured eardrum was diagnosed.

April 2004 **04/142**

Two divers completed a 37 min dive to a depth of 34m. 1 hour 30 min later they dived again. This second dive was to a maximum depth of 35m. During the ascent, at a depth of 25m, one of the pair was unable to dump air from his drysuit. His buddy tried to slow him down but he made a fast ascent to the surface. His buddy deployed a delayed SMB and made a normal ascent. The diver who had made the rapid ascent was recovered from the water. He felt slightly dizzy and he was placed on oxygen. His pupils were found to be reacting poorly and diving medical advice was sought. The diver was kept on oxygen for an hour and given fluids. After this hour he had recovered and he went home with no further problems encountered.

April 2004 **04/201**

A diver was fully kitted ready to dive from the shore. She tripped and fell. She then completed a 26 min dive to 8m. After the dive her right ankle was very painful. She went to hospital and it was discovered that her ankle was broken.

April 2004 **04/150**

A diver was about 5 min into a dive when she started to become short of breath, disorientated and confused with a loss of coordination. At 9m she developed a severe headache. She switched to her pony cylinder and started to feel better but still confused. After the dive she felt unwell and was placed on oxygen. The pillar valve was removed from her diving cylinder and an oil-like film was found around the threads of the pillar valve. It was thought that the contamination had come from a compressor during filling, but the source was not identified.

April 2004 **04/266**

Two divers were 4 min into a dive at a depth of 15m. They made a fast ascent to the surface missing a planned safety stop. They complained of feeling 'light-headed'. They were placed on oxygen for 30 min and advised on hydration. No subsequent ill effects were experienced.

April 2004 **04/418**

Following a shore dive one of the party felt unwell, when observed by a member of the public being pulled from the water Coastguards were alerted. Diver taken to A&E at Poole where the condition was thought not to be dive related. (Coastguard report).

May 2004 **04/419**

Whilst preparing for a shore dive, a diver was washed into a rock crevice and trapped by diving cylinder, whilst attempting to assist the diver another sustained an injury to the knee, treated on the scene by Coastguard personnel. (Coastguard report).

May 2004 **04/165**

A trainee and an instructor undertook a dive to a depth of 8m. They descended a shotline. The trainee cleared her ears successfully on two occasions but then felt the pressure building in her left ear. She signalled that she wanted to ascend a little but her eardrum burst causing her severe pain and disorientation. Her instructor brought her to the surface and signalled an emergency to the boat. She was taken to hospital and treated for a burst eardrum.

May 2004 **04/424**

Upon entry to the water diver hit the skeg of the outboard, sustaining a head injury. Vessel met by awaiting ambulance and Coastguard team transported to hospital for treatment. (Coastguard report).

May 2004 **04/338**

A trainee diver and an instructor dived to a depth of 6m. At a depth of 2m they practised mask clearing. The trainee removed his mask and water entered his nose. The trainee had had surgery to his nose ten years earlier which, unknown to the trainee, left it very sensitive. The cold water caused him severe pain. The instructor brought the trainee to the surface using a controlled buoyant lift. No subsequent ill effects were experienced.

May 2004 **04/523**

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

May 2004 **04/206**

A diver became stressed whilst preparing to dive and complained of chest pains. He was placed on oxygen and taken to hospital. A mild heart attack was diagnosed.

June 2004 **04/211**

A diver dived to 10m for 26 min. 2 hours 19 min later he dived to 7m for 28 min. 10 min after surfacing from the second dive, which included multiple ascents, he complained of feeling unwell and he had a slight rash across his chest. He was placed on oxygen and the emergency services were alerted. The diver was taken by ambulance to a hospital from where he was discharged 3 hours later.

June 2004 **04/267**

Two divers were conducting a training dive, one of them was trying out a drysuit. This diver made two fast ascents from 6m. They continued the dive and, at about 9m, the diver who had made the fast ascents developed a headache and had difficulty clearing his ears. They aborted the dive and surfaced with a 3 min safety stop at 3m. Once out of the water the diver with the headache was placed on oxygen. His condition improved and he was advised to seek medical advice on his ears and sinuses.

June 2004 **04/234**

A boat was traveling to a dive site in rough conditions. Two

divers in the boat saw a cylinder start to fall and both went to grab it. In doing so they banged their heads together. One of the two sustained a blow to his nose which then started to bleed heavily. The boat returned to the shore and the emergency services attended. It is thought that the diver may have broken his nose.

June 2004 04/228

A diver was engaged in launching an RHIB. He attempted to connect the RHIB trailer to the back of a tractor but did not realise that the ball hitch had not coupled securely. He climbed into the RHIB and the tractor driver began to reverse down the slipway. The trailer became disconnected and accelerated down the slipway. The tide was low and the slipway was 20 to 30m long. The trailer ran to one side and started to climb a bank causing the boat and trailer to roll over. The diver in the boat jumped clear but injured his feet when he landed on the slipway. He went to hospital where a fracture of his right foot and bruising and a pulled tendon in his left foot were treated.

June 2004 04/212

A diver conducted a 35 min dive to a depth of 10m. 2 hours 14 min later he dived to 22m. Whilst preparing for this second dive he was slightly seasick but felt well enough to continue. During the dive he vomited again but did not alert his two buddies. The dive leader noticed that the sick diver seemed uncomfortable but he did not indicate any problem. After 25 min they started their ascent up a shotline. At 6m they stopped to complete a 3 min stop. At this point the diver vomited again and his regulator became blocked. One of his buddies handed him his octopus regulator which he took. The diver did not seem to be breathing correctly so the dive leader, fearing that he might lose consciousness, brought him to the surface in a rapid buoyant ascent. The third diver made a normal ascent. At the surface the dive leader signalled for the boat to recover them. Once in the boat the sick diver was placed on oxygen but he continued to vomit. The Coastguard was alerted and the two divers were airlifted to a recompression facility. The dive leader was discharged after 3 hours and the sick diver was discharged the following day. Neither experienced any other symptoms.

June 2004 04/214

Two divers completed a 31 min dive to a depth of 21m including a 3 min stop at 5m. Towards the end of the dive one of the pair began to feel unwell and was sick underwater. She was sick again after leaving the water. She was placed on oxygen and given water. She made a full recovery. The weather was very warm and the diver may have been dehydrated.

June 2004 04/215

A trainee diver was going down some steps to enter the water when he slipped and fell. He hit his head and fell into the water. Others helped him out. His only injury was a black eye.

June 2004 04/222

After completing a dive a diver used a dive boat's lift to get back into the boat. The sea conditions were rough and she lost her balance and fell over. She was unable to put any weight on her right leg and was assisted to dekit. She thought that she had a bad sprain. Later that day the leg and ankle were still very painful and swollen. She attended her local hospital and a fractured fibula was diagnosed.

June 2004 04/333

A diver conducted a dive to 30m for 51 min with a 15 min stop at

6m. Later that day she completed a dive to 21m for 61 min with a 5 min stop at 6m. She then returned to her accommodation where she felt cold and tired and so she went to bed. Later she got up and sat in the sunshine but when she went indoors again she still felt tired and returned to bed, with a hot drink and a hot water bottle. That evening she suffered severe cramp in her calf muscles. Medical advice was sought by phone and the casualty was taken to hospital. Hypothermia and dehydration were diagnosed. The casualty recovered.

June 2004 04/271

A diver conducted two dives. After the second dive he noticed blood coming from his ear. He went to hospital for examination.

July 2004 04/275

Two divers were returning up an underwater slope after a dive to 35m. At 15m one of the pair lost control of his buoyancy and started to ascend. His buddy pulled him back down and they completed their decompression stops before surfacing. After the dive the buoyant diver suffered shoulder pain and nausea and his buddy experienced some tingling in his left leg. Both were placed on oxygen and both recovered. Tiredness and lack of food may have been contributory factors.

July 2004 04/240

A diver was exploring a wreck at a depth of 30m. He saw a lobster through an opening in the wreck. He reached in to grab the lobster and a conger eel, which was approximately 3m long, bit into his hand. The eel pulled him into the wreck. The diver pulled back but the eel would not release its grip. He used his other hand to take hold of the eel and his hand was released. He sustained bite injuries to his hand and bruising to his face caused by contact with the wreck. (Media report).

July 2004 04/249

A diver was leaving the water using a boat lift, in rough conditions, when she lost her balance, fell, and fractured her ankle.

July 2004 04/302

A trainee diver was preparing to enter the water for a shore dive. She turned around to reach her regulator and over-balanced. She fell over and twisted her knee. She was in considerable pain and an ambulance was called. She was taken to hospital where torn ligaments in her knee were diagnosed.

July 2004 04/276

Three divers prepared for a dive. One of the three reported that his back was hurting but he stated that he was fit to dive. The others carried his kit to the entry point and helped him to kit up. They conducted a dive to a depth of 6m but during the return swim the injured diver started to experience difficulties. The three made a safe ascent to the surface where the casualty was made positively buoyant. One of his buddies towed him to the shore and the casualty was landed with assistance from others. He was taken by ambulance to hospital. Examination revealed that he was suffering from bruised ribs, sustained before the dive in a non-diving related activity.

July 2004 04/298

A diver stepped out of a boat at a slipway. He fell on the slipway and landed in the water between it and the boat, injuring his left foot. He walked from the water but became faint and collapsed onto the ground. He was placed on oxygen and his condition improved. About 4 hours later he became faint again, with blurred vision. He experienced great pain in his foot, which was swollen. He was taken by ambulance to hospital. No fracture

was found and he was released from hospital the following day.

July 2004

04/295

Three pairs of divers dived on a wreck to a maximum depth of 39m. During the dive one of the divers came across a diver from one of the other pairs hanging in the water, motionless and without a regulator in his mouth. He swam to this diver and placed one of his regulators into his mouth. He did not respond so the diver tried another of the troubled diver's regulators. He purged the regulator and the diver seemed to be breathing. They were sinking down beside the wreck so the rescuer attempted to inflate the casualty's suit, but he could not find the direct feed. At this point the casualty's buddy arrived and was able to locate and operate his direct feed. They brought him to the top of the wreck. The buddy deployed a delayed SMB and the three started their ascent. At 10m the rescuer's computer indicated 10 min of decompression stops were required. At this point the casualty started to convulse. The casualty and his buddy were buoyant and continued to the surface. The rescuer stopped and conducted a 5 min stop using nitrox. At the surface the casualty was recovered onto a dive platform at the back of the boat. The rescuer and the buddy were recovered into the boat and the Coastguard was alerted. The casualty, who was initially unconscious, was placed on oxygen and airlifted to a recompression facility for treatment. A lifeboat was launched to help to recover the other divers who had been left whilst the boat manoeuvred to facilitate the helicopter recovery of the casualty. The casualty recovered. He had been diving with a main cylinder and a pony cylinder both filled with air, and a side slung cylinder containing nitrox 65 for decompression. After the incident his main and pony cylinders were found to be empty but his main regulator had been venting whilst he was recovered into the boat and his rescuers had been able to inflate his BCD. The casualty reports having run out of air at depth and is unsure if he was unable to find his pony regulator or did not think to do so. It was thought that the diver entered the water using his pony regulator in error; when this cylinder was exhausted he assumed that his main supply had failed and was then unable to locate his pony regulator, which was already in his mouth.

July 2004

04/279

A diver conducted a dive to 21m for 39 min. 2 hours later he dived to 9m for 9 min. 2 hours later he commenced a third dive to a depth of 6m. At the start of this dive he began to feel unwell with a 'thick head' and a 'funny feeling' in his lips. He aborted the dive, was placed on oxygen and started to recover. It is thought that his air may have been contaminated.

August 2004

04/291

A diver had participated in a pool training session that lasted 75 min and involved diving to a maximum depth of 3m. After the session he complained of 'pins and needles' and a swollen right hand. He sought medical advice and was placed on oxygen. He was then transferred to a recompression facility for treatment. The casualty had been involved in a serious accident seven years earlier and had very severe scarring and tissue damage around his shoulders and back.

August 2004

04/309

Three divers descended a shotline to a wreck in a depth of 39m. One of the three began to be affected by nitrogen narcosis at a depth of 36m. She had a feeling of 'unreality', her thought processes slowed and she had some confusion. She stopped and the feeling subsided. She descended to the bottom where she experienced visual disturbances and lightheadedness. The dive leader signalled that they should move towards the wreck but the diver with narcosis did not respond. The dive leader brought the troubled diver to the surface using a controlled buoyant lift and they were recovered into the boat. The casualty

was placed on oxygen and quickly recovered. No symptoms developed and no further action was taken.

August 2004

04/341

A trainee diver completed two 20 min dives to 6m twice in one day. The following day she dived again to 6m. She was engaged in mask clearing drills when she indicated to her instructor that she wanted to ascend. At the surface she complained of a headache, similar to that caused by eating ice-cream. The water temperature at 6m was 18 deg C and she had been diving without a hood. She was placed on oxygen but the pain remained. She was taken by ambulance to hospital. The problem persisted but was not thought to be diving-related. Further medical tests were planned.

August 2004

04/310

A diver completed a 40 min dive to a depth of 10m. During this dive he had a problem clearing his ears but felt able to make a second dive. 75 min later he dived to 12m. As he descended on this second dive he felt a sharp pain in his left ear. As they ascended from this dive his buddy saw blood coming from his ear. After the dive he reported that his ear felt painful and he went to hospital for examination.

August 2004

04/484

Stornoway Coastguard requested Coastguard rescue helicopter to stand-by as a report had come in from Clyde Coastguard of a diver aboard a dive support vessel suffering from suspected DCI. Following a call to a doctor the dive vessel reported taking the diver ashore to be seen at local hospital, not thought to be diving related, Coastguard rescue helicopter R-MU and all other units stood down. (Coastguard report).

August 2004

04/324

A diver conducted a dive to 26m with a 5 min safety stop and a second dive to 25m with a 4 min safety stop. That evening he noticed a numbness in his lower left arm. The problem persisted and he sought medical advice. Medical examination revealed no DCI-related symptoms and he was asked to return for examination the following morning. When he did so possible DCI-related symptoms were found and the diver was taken by lifeboat to a recompression facility where he was treated. The final diagnosis was of a non-diving related trapped nerve in his left arm.

August 2004

04/325

Two divers conducted a dive on a wreck to a maximum depth of 24m. They were swimming along the top of the wreck when one of the pair thought that she had a leak in her drysuit. She communicated this to her buddy and he checked but could find no problem. She began to feel buoyant and held on to part of the wreck. She signalled that she wanted to ascend and her buddy deployed a delayed SMB. During the ascent the troubled diver felt that she wanted to go to sleep and she held onto the other diver. She then lost consciousness and released her grip. The other diver checked that her regulator was still in place and brought her to the surface using a controlled buoyant lift. They were recovered into their boat and the casualty was placed on oxygen. The Coastguard was alerted and the boat headed back to shore leaving another boat to recover the remaining divers. The diver was taken to a recompression facility but no DCI was found. She slowly recovered and was declared fit the following morning.

September 2004

04/345

A diver and an instructor were engaged in an advanced nitrox course. They were using nitrox 32 with nitrox 50 for



decompression. They dived to 35m and then made their ascent with a 10 min stop at 21m, a 1 min stop at 12m and they were making a stop at 9m when the trainee seemed to suffer a convulsion. He then started to sink back down. The instructor went after him, arrested the descent at 15m, and brought them both to the surface. At the surface the trainee was not breathing. He was recovered from the water and quickly responded to resuscitation. He was airlifted to a recompression facility for treatment and released the following day. Oxygen poisoning was thought to have been the cause.

September 2004

04/342

A pair of divers conducted a dive to 33m. Near the start of the dive, at a depth of 30m, one of the pair signalled that she wanted to ascend. They started their ascent. Her buddy gave the 'OK' signal and received the 'ascend' signal in response. At 17m the troubled diver gave the 'ascend' signal again with a sense of

urgency and her buddy assisted her to the surface in a faster than normal ascent. At the surface the troubled diver was unresponsive. She was removed from the water and CPR was applied and a defibrillator was used on her. The emergency services were alerted and the casualty was airlifted to a recompression facility. On arrival she was conscious. She was given a precautionary recompression treatment and made a full recovery.

September 2004

04/501

Dive support vessel contacted Shetland Coastguard requesting medical assistance for a diver who had collapsed on the deck of the vessel, casualty transferred to waiting ambulance and transferred to hospital for treatment. (Coastguard report).

Boating & Surface Incidents

October 2003 **04/386**
 999 call received from member of the public, reporting seeing two divers in apparent difficulty, observing the divers blowing a whistle and waving, they had a red object with them. Coastguard helicopter R-WB was scrambled, not finding the divers in the reported position. The first informant was contacted who stated she could see the divers and that the helo needed to go further south. At this time a dive support vessel (RHIB) reported having two divers 15 min overdue. Note: The dive boat made no attempt to indicate to the helo crew he had divers overdue, and the call to the Coastguard station was with no precedence, and was placed as a routine call to VHF channel 73, where he indicated having divers overdue. (Coastguard report).

October 2003 **04/387**
 Dive support vessel reported having a missing diver, shortly after contacted Coastguard to report diver found safe and well, as SAR units arrived on scene. (Coastguard and RNLI reports).

October 2003 **04/389**
 Dive support vessel alerted Coastguard of having a missing diver, who was wearing a rebreather and apparently solo having dived to 60m. Urgency broadcast made with police fixed wing aircraft joining the search. Diver recovered safe and well by own dive vessel, SAR operations terminated. (Coastguard report).

October 2003 **04/390**
 Dive support vessel made routine call to Coastguard, stating they had two drift divers overdue, Irish Coastguard helicopter requested to assist in the search, in addition to RNLI and dive club boat. Divers made their own way to shore and immediately contacted Coastguard. (Coastguard report).

October 2003 **04/391**
 999 call to Coastguard reporting diver in difficulties 200m offshore, RAF Rescue helicopter and RNLI inshore lifeboat tasked to assist. lifeboat recovering casualty, no worse for his ordeal, as he had become caught in the tide and also air in his suit. No medical treatment required. (Coastguard and RNLI reports).

October 2003 **04/511**
 Lifeboat assisted in the search for missing diver(s). Others coped. (RNLI report).

November 2003 **04/036**
 Two divers entered the water from an RHIB and commenced a dive using an SMB. After they had descended the engine of the RHIB cut out and the cox was unable to restart it. He checked the fuel which was found to be half full. The boat was drifting away from the divers so the cox deployed an anchor. He then radioed the harbour authority and another dive boat was dispatched to help. The other boat safely recovered the divers and they then managed to restart the engine of the RHIB. It was found that the engine had exhibited problems earlier that day.

November 2003 **04/395**
 Dive support vessel reported breaking down. No further information. (Coastguard and RNLI reports).

November 2003 **04/514**
 A group of divers on the shore saw two other divers on top of a reef about 30m offshore. The waves were washing over the reef and the two divers were giving the emergency signal. Two divers from the shore party snorkelled out to help. They got the divers off the reef, dumped their weightbelts and towed them, one at a time, back to the shore. A lifeboat also attended but the situation had already been resolved.

Analysis of boating & surface incidents



January 2004 **04/403**
 Dive support vessel reported having a diver overdue. Diver last seen on the surface, Forth Coastguard tasked North Berwick lifeboat, diver recovered by own vessel. (Coastguard and RNLI reports).

February 2004 **04/404**
 Dive support vessel indicated by mobile phone having broken down. Sister vessel in the area had divers in the water so could not effect a tow. Penlee ILB came to the aid of the stricken vessel, assisting them to restart their engine, casualty made own way to shore. (Coastguard report).

March 2004 **04/517**
 Two lifeboats launched to assist dive boat with engine problems. Craft towed in. (RNLI report).

March 2004 **04/413**
 Dive boat contacted Coastguard to report that they had broken down with divers in the water, divers recovered and escorted back to port by lifeboat. (Coastguard report).

April 2004 04/548

A number of dive boats were operating around a crowded wreck site. A pair of divers were surfacing under a delayed SMB when a large hardboat drove over the buoy, despite the divers' boat cover trying to prevent this. The SMB line was caught around the propeller of the large boat and pulled in. The diver released the reel which was damaged by the propeller. The diver hit his head against the hull of the boat but was able to push himself away from the propeller. They surfaced without further incident and neither diver suffered any resultant ill effects. The hardboat skipper returned to check that no injury had been caused and to apologise.

April 2004 04/519

Lifeboat launched to assist swamped / leaking dive boat. (RNLI report).

April 2004 04/164

A group of seven divers were on their way to a dive site in an RHIB. After 20 min of travel the engine began to lose power. The cox closed the throttle and the engine cut out. Checks were made for obvious problems but none were found and the engine could not be restarted. They attempted to radio another dive boat and they sought assistance from another branch member by phone but to no avail. They then contacted the Coastguard and alerted them of their predicament. Another dive boat in the area monitored the call and offered assistance. They were safely towed back to the harbour. The engine had been recently rebuilt.

May 2004 04/521

Lifeboat launched to assist dive boat in difficulties in adverse conditions, craft escorted in. (RNLI report).

May 2004 04/426

A member of the public called Milford Haven Coastguard reporting seeing two divers on rocks and waving for assistance. Littlehaven lifeboat and Wooltac Pt Coastguard were tasked to attend, recovering divers and returning to shore. (Coastguard and RNLI reports).

May 2004 04/522

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

May 2004 04/414

Whilst in attendance at popular diving location conducting PR the Porthoustock Coastguard rescue team noticed that a dive RHIB was looking in the wrong area for their divers whilst the divers were observed waving to the vessel. This was reported to the MRCC who attempted to raise the vessel on VHF channel 16 with no success. Other vessel responded and recovered divers to own RHIB, it transpired the vessel had its VHF radio tuned to channel 73. Safety advice was given to the owner. (Coastguard report).

May 2004 04/427

Dive support vessel (RHIB) fired red flare after breaking down, no response to red flare. Vessel effected repair and self recovered. NOTE: vessel had no VHF and no mobile also no life jackets were carried. (Coastguard report).

May 2004 04/429

Dive support vessel made a 999 call reporting had run aground with 2 pob, immediately Coastguards tasked AWLB, inshore

lifeboat and Coastguard rescue team to assist. Lifeboat was unable to tow off and the Coastguard vehicle was used to ensure the vessel dried out upright and thus preventing a pollution risk as the vessel had on board 1000 gallons of diesel fuel and 35 gallons of lube oil. This was of some concern for local fish farms. Vessel subsequently towed off and made way to harbour under her own power. (Coastguard and RNLI reports).

May 2004 04/433

Dive vessel called on VHF channel 16 reporting a missing diver, Coastguard rescue helicopter R-MU scrambled, Coastguard rescue team Lochboisdale attending. Vessel contacted Coastguard reporting diver surfaced safe and well all units stood down. (Coastguard report).

May 2004 04/436

RNLI lifeboat returning to station from a previous incident came upon a broken down dive boat with 2 pob, one still in the water. The lifeboat took the vessel in tow to Cullercoats harbour, all safe. (Coastguard and RNLI reports).

May 2004 04/526

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

May 2004 04/525

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

May 2004 04/527

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

May 2004 04/439

Humber Coastguard intercepted a call from a dive vessel 2 pob reporting having broken down with fuel starvation problems. Another vessel reported they were proceeding towing the vessel into a safe harbour. (Coastguard report).

May 2004 04/179

A dive boat contacted the Coastguard to report that they had broken down. An inshore lifeboat towed the disabled craft to the shore and another boat recovered the associated divers. (Coastguard and RNLI reports).

May 2004 04/178

The Coastguard were alerted when a dive boat reported two divers overdue. A helicopter and a lifeboat were tasked to assist. The divers were located safe and well prior to the arrival of the rescue units. (Coastguard report).

May 2004 04/300

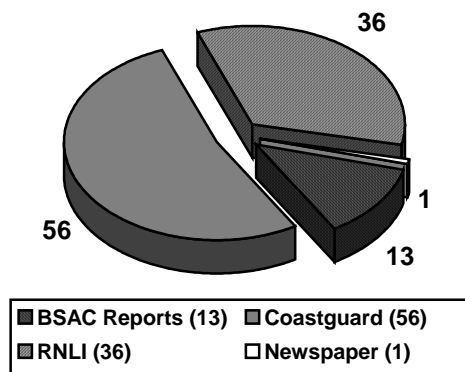
A group of three pairs of divers conducted a dive to a depth of 12m. After a surface interval of 3 hours 15 min they made a second dive. At the second site another group had already deployed a shotline and did not want them to deploy theirs as they had divers underwater. Two pairs entered the water using the other group's shotline. They dived to a depth of 18m. When the other group had finished their dive the pair in the boat deployed their own shotline. The two pairs were recovered into the boat and the last pair commenced their dive. When they got to the bottom of the shot it was not on the wreck site. One of the divers attached a lifting bag and partially inflated it to aid later recovery. Unknown to the divers in the boat the shot buoy

was now drifting with the current and they stayed with it. The pair underwater deployed a delayed SMB after 28 min and surfaced. At the surface they could see the boat but they were not spotted by the boat crew. The boat crew became concerned when the divers were overdue and they then discovered, from GPS readings, that they were off the wreck site. They returned to the site but could not locate their divers. They contacted the Coastguard and a lifeboat and a helicopter were tasked to search. The divers were located quickly by the helicopter and recovered, one into the dive boat and the other into the lifeboat. No subsequent ill effects were experienced.

May 2004 04/441

Dive support vessel contacted Coastguard reporting breaking down with divers in the water, tried on main radio low power then transmitted on hand held broken message, subsequently towed to shore by police RHIB, RNLI attending, Dale Coastguard rescue team. (Coastguard and RNLI reports).

Boating & surface incident report source analysis



June 2004 04/198

A party of divers were diving on a wreck from an RHIB. The first pair were recovered but the cox was then unable to restart the engine. The boat was anchored and the Coastguard was alerted. The last three divers then surfaced and swam 400m to get to the boat. The Coastguard was informed that all divers were safely recovered. A lifeboat towed the disabled boat to harbour. Subsequently a fault was found with the starter motor. The engine had been rebuilt one week earlier by a service agent.

June 2004 04/217

A group of divers were traveling to a dive site in an RHIB. The sea was calm and they were traveling at about 25 knots. One of the divers was sitting in the bow holding on to the painter. The boat suddenly encountered two waves close to each other. The cox shouted a warning but the diver in the bow was thrown into the air and landed by the console. He struck his arm causing a fracture close to his wrist. The waves are thought to have been the wash from nearby naval vessels. The broken arm was strapped and supported in a sling. The boat returned to harbour and the diver was taken to hospital where the joint was pinned and set.

June 2004 04/442

Dive boat called Coastguard reporting breaking down, RNLI lifeboat tasked initially stood down when vessels engine started, it subsequently failed again, the vessel towed to shore by lifeboat. (Coastguard report).

June 2004 04/443

'Pan Pan' broadcast initiated on behalf of dive support vessel experiencing engine problems when heading out to dive a wreck site, Brixham Coastguard broadcasted a request for assistance, vessel then taken in tow and returned to shore. (Coastguard and RNLI reports).

June 2004 04/529

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

June 2004 04/444

Humber Coastguard co-ordinated the recovery of a broken-down dive RHIB. The RHIB had called the launch site to inform them of their problem, they contacted Humber Coastguard who tasked the Flamborough Head RNLI, launching the inshore lifeboat who recovered the vessel to shore. Bridlington Coastguard attending to give safety advice relating to the use of VHF radio and updating of GPS navigators. (Coastguard report).

June 2004 04/188

The crew of a dive boat contacted the Coastguard after their engine failed and they had lost contact with three divers. The Coastguard co-ordinated a search involving several craft in the vicinity. The divers were found at the surface hanging on to a shotline and recovered into a yacht. Another dive boat took the disabled craft in tow, recovered the missing divers and brought them all to the shore. (Coastguard report).

June 2004 04/530

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

June 2004 04/532

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

June 2004 04/531

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

June 2004 04/322

A group of divers were on their way to a dive site. They were 4 miles offshore when the outboard engine of their boat started to slow down. Seconds later it stopped and could not be restarted. They anchored the boat and after making unsuccessful attempts to locate a fault they contacted the Coastguard. Their call was overheard by a nearby fishing vessel which towed them back to the shore. Subsequent examination of the engine revealed that a camshaft drive sprocket retaining bolt had failed causing damage to the camshaft. The manufacturer claimed that this was due to the engine being run with a low oil level, but this was refuted by the divers.

June 2004 04/219

A group of divers were involved in the second day of a boat handling course. On their way to a site to practice wreck location the engine of their boat stopped and could not be restarted. They anchored in 30m of water and contacted the Coastguard. A lifeboat was launched and they were towed back to the shore.

June 2004 04/450

Whilst on exercise, Weymouth inshore lifeboat came across a RHIB with engine failure, the RHIB was taken in tow and returned to shore. (Coastguard report).

June 2004 04/451

Dive support vessel indicated requiring assistance having broken down with all divers aboard, the conversation was overheard by another vessel towing the stricken vessel safely to shore. (Coastguard report).

June 2004 04/452

Portland Coastguard received a call from dive support vessel indicating they had two divers overdue. (Coastguard and RNLI reports).

June 2004 04/216

A decompression station became disconnected from a shotline whilst four divers were conducting their dive. The boat crew did not realise that the station had become disconnected and they followed the drifting buoys. When the divers ascended the shotline they deployed delayed SMBs to conduct their decompression. The boat became separated from the divers. The Coastguard was alerted and a helicopter, an aircraft, and four lifeboats were tasked to assist. The divers were located 2 miles from the dive site and safely recovered. (Media report).

June 2004 04/453

Dive vessel reported having engine problems with 15 persons on board, Salcombe lifeboat tasked to assist with a tow to shore, had suffered total engine seized. (Coastguard and RNLI reports).

July 2004 04/536

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

July 2004 04/455

Hope Cove Coastguard were tasked to keep dive boat Woodpecker under observation, having suffered throttle cable failure with 12 pob, divers taken off by another vessel, Woodpecker sorting out problem and making own way to shore. (Coastguard report).

July 2004 04/545

A large dive boat was disabled when its cooling water intake was obstructed. The engine seized and the vessel was towed back to safety by a lifeboat.

July 2004 04/533

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

July 2004 04/459

Humber Coastguard received a call on VHF channel 16 from a

dive boat reporting having broken down with two divers in the water, a vessel close-by overheard the request for assistance and proceeded to assist by picking up the divers, the stricken vessel managed to restart her engine and return to shore under her own power. (Coastguard report).

July 2004 04/460

Dive boat reported to Yarmouth Coastguard that they had broken down and required assistance, the vessel had drifted away from the datum with divers in the water. RAF Rescue helicopter and Cromer lifeboat were tasked to assist. The broken down vessel sighted flares which originated from the divers, the stricken vessel was able to recover the divers and made own way back to port. (Coastguard and RNLI reports).

July 2004 04/535

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

July 2004 04/339

Three pairs of divers entered the water from an inflatable dive boat leaving the cox and another diver aboard the boat. The engine then cut out and could not be restarted. The boat was anchored and the cox attempted to contact other dive boats in the area by radio. The other boats did not respond. The Coastguard overheard the call and responded. The Coastguard was able to contact other boats in the area and two of these boats recovered the divers and returned them to their boat. A lifeboat attended and towed the disabled boat back to the shore.

July 2004 04/461

Dive support vessel made a 'Pan Pan' call to Portland Coastguard reporting a missing diver after a drift dive. Coastguard rescue helicopter Weymouth lifeboat tasked to proceed, units were stood down when diver was located safe and well. (Coastguard report).

July 2004 04/464

Dive support vessel called Humber Coastguard for assistance reporting having broken down with seven persons onboard, Seahouses lifeboat was tasked and towed to shore. (Coastguard report).

July 2004 04/537

Lifeboat launched to assist swamped / leaking dive boat. Craft towed in. (RNLI report).

July 2004 04/538

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

July 2004 04/259

A dive boat was returning from a dive 8 miles offshore. After 2 miles the divers switched fuel tanks. Whilst the tanks were being changed the engine stalled. Several unsuccessful attempts were made to restart the engine. The cover was removed from the engine and it was found that the starter motor was not engaging. The boat was anchored and the Coastguard was alerted. A lifeboat was launched to tow the boat ashore. Subsequent investigations revealed that the brushes of the start motor were worn.

July 2004 04/465

Dive vessel contacted Solent Coastguard reporting two missing

divers, two lifeboats and Coastguard rescue helicopter proceeded to the scene, the helicopter recovered the missing divers returning them to an assisting vessel and subsequently to their own boat. (Coastguard and RNLI reports).

July 2004 04/263

Two divers commenced a dive close to a small island. Their plan was to surface at the other end of the island. Once underwater they discovered that the current at 10m was flowing in the opposite direction to that anticipated. They attempted to deploy a delayed SMB but the reel failed. Whilst struggling with the SMB they were carried to a depth of 30m. They aborted the dive and ascended, making a decompression stop at 6m. At the surface they discovered that they were a considerable distance from their boat and were not seen by the boat crew. The Coastguard was alerted when it was realised that the divers were overdue. A search was initiated involving a helicopter and a lifeboat. The divers were found after 2 hours at the surface by the helicopter. They were safely recovered into the lifeboat.

July 2004 04/277

Seven divers on an RHIB were engaged in a dive on a wreck. Two divers entered the water and when the cox attempted to move away he could not shift the gearbox out of neutral. Assistance was sought from nearby RHIBs and one of these came to help. The crew of the disabled RHIB deployed their anchor and the assisting RHIB recovered the two divers. The Coastguard was alerted and a lifeboat was launched to tow the disabled boat back to the shore. A broken clutch cable was later found to have been the cause. It is alleged that one of the boats requested to assist refused to do so; this was reported to the Coastguard.

July 2004 04/254

The Coastguard was alerted when two divers were overdue from a 30m drift dive. A search was initiated involving a lifeboat, a helicopter and other craft. The two divers were spotted by the helicopter after about 1 hour. The helicopter dropped smoke signals near the divers to mark their position. The divers were recovered by the lifeboat. They were unharmed. (Coastguard report).

July 2004 04/539

Two lifeboats launched to locate missing diver(s). False alarm. (RNLI report).

August 2004 04/470

Dive support RHIB contacted Portland Coastguard reporting having two divers missing adrift, having observed the two divers surfacing the dive boat skipper deployed two further divers losing sight of the first pair, following broadcast action a local fishing vessel searched the area located the missing divers returning them to their parent vessel. (Coastguard report).

August 2004 04/471

Dive vessel contacted Falmouth Coastguard reporting having had a vessel run over divers and surface marker buoys (Hazrep filed). (Coastguard report).

August 2004 04/473

Milford Haven Coastguard received a call reporting three divers missing from dive support vessel, extensive air and sea rescue was co-ordinated by Milford Haven Coastguard, the divers were recovered safe and well suffering from hypothermia after two hours in the water, they were taken to hospital by rescue helicopter. (Coastguard report).

August 2004 04/474

Dive support vessel contacted Yarmouth Coastguard reporting suffering total engine failure with five pob. Towed to shore by Mundesley inshore rescue boat, Mundesley Coastguard meeting them when ashore to collect details. (Coastguard report).

August 2004 04/477

Portland Coastguard received a call from dive vessel reporting standing by two divers who had become separated from their own boat whilst drift diving, the divers were recovered and delivered back to parent vessel. (Coastguard report).

August 2004 04/478

Portland Coastguard received a 'Mayday' call from dive support vessel reporting having run aground with six divers still in the water. Rescue helicopter, Weymouth lifeboat and inshore lifeboat were tasked to assist. Divers were located by their SMB and recovered. Parent vessel towed ashore with all divers onboard, suffering propeller damage. (Coastguard report).

August 2004 04/486

The Island Princess and Sea Princess went to the assistance of dive vessel with engine difficulties off Thatcher Rock, Torbay. The Island Princess towed the vessel into Torquay, where Torbay Coastguard assisted the vessel to a safe mooring and collected details. (Coastguard report).

August 2004 04/489

Dive RHIB reported to Portland Coastguard they had broken down with two persons aboard, following an all ships broadcast casualty towed to safety by a yacht then a power cruiser. (Coastguard report).

August 2004 04/490

Liverpool Coastguard received a call from dive RHIB reporting having broken down, the vessel was towed safely to shore by Port Erin inshore lifeboat, Isle of Man. (Coastguard report).

August 2004 04/493

Dive boat reported breaking down with twelve persons onboard, two other dive vessels assisted the stricken vessel ashore met by Coastguard team on arrival at the port. (Coastguard report).

August 2004 04/491

Dive support vessel was reported as having broken down with five pob, the vessel anchored until the Lyme Regis lifeboat recovered the vessel to shore, casualty watch maintained by Beer Coastguard mobile. (Coastguard report).

August 2004 04/498

Yacht contacted Falmouth Coastguard reporting having picked up a diver from the water in Falmouth Bay, a second diver was recovered by another yacht both divers were reunited with own vessel which had broken down and drifted away from dive site, vessel had no anchor, warp, VHF radio and inexperienced person as crew, safety advice given by Falmouth Coastguard team on return to shore. (Coastguard report).

August 2004 04/497

Dive boat towed another boat to safety when its propeller became entangled. (Coastguard report).



August 2004

04/495

Dive support vessel contacted Falmouth Coastguard reporting two divers overdue following a dive to 26m. Penlee lifeboat and inshore lifeboat commenced search together with various other vessels, divers located safe and well prior to rescue services arriving on scene. (Coastguard report).

September 2004

04/502

Clyde Coastguard received a call from a dive vessel with eight pob reporting they had a rope around her propeller, Largs lifeboat assisted vessel to free her prop. (Coastguard report).

September 2004

04/505

Humber Coastguard requested Humber rescue launch to assist two dive vessels broken down, vessels towed to shore, met by Hull Coastguard. (Coastguard report).

September 2004

04/507

Portland Coastguard received a 'Pan Pan' call from dive support vessel reporting two divers overdue, the divers surfaced and were recovered before rescue services arrived on scene. (Coastguard report).

Ascents

October 2003 04/013

Two divers were conducting a night dive and, at a depth of 32m, one of them experienced a problem with her mask. The divers made a rapid ascent to the surface. No subsequent ill effects were experienced.

October 2003 04/393

Diver 10 years old rapid ascent from 5m, airlifted to recompression chamber for treatment. (Coastguard report).

October 2003 04/033

An instructor and two pairs of divers began an ascent to a planned depth of 30m. The instructor and the first pair reached 30m, but one of the second pair put too much air into his drysuit at 23m and made a buoyant ascent to the surface. His buddy went with him. The buoyant diver's computer indicated an alarm due to a rapid ascent and missed stops. The instructor and the other divers aborted the dive and made a normal ascent and the group left the water. The buoyant diver and his buddy were placed on oxygen for 90 min and given water. No adverse effects were reported.

November 2003 04/077

A trainee and an instructor were surfacing from a dive to a maximum depth of 18m. The trainee was operating the SMB. He was struggling to ascend and kept adding air to his BCD. The instructor corrected this each time to slow the ascent. At 10m the trainee was approaching his reserve level; the instructor took the SMB and the trainee held the line. At 8m the trainee made a rapid ascent to the surface. The instructor followed at a normal rate. Neither diver suffered subsequent ill effect. The trainee stated that he had felt claustrophobic and panicked.

November 2003 04/035

Two divers completed a dive to 21m and were ascending. At 6m one of the pair lost control of his buoyancy and made an uncontrolled ascent to the surface. Once out of the water he was placed on oxygen and treatment was given to a cut to his hand. No subsequent ill effects were experienced.

November 2003 04/364

Two divers entered the water, swam to a shotline and descended to the bottom at 20m. They spent about 6 min at this depth and then swam to a depth of 17m. At this point one of the pair experienced buoyancy control problems and started to ascend. The dump valve of his drysuit did not seem to work correctly and he was carried to the surface. He then re-descended with his buddy and they conducted a 5 min decompression stop at 5m. Their total dive time was 28 min. No subsequent ill effects were experienced. It is thought that the drysuit dump valve was blocked by talcum powder.

November 2003 04/078

Two divers began a night dive. They descended to 6m and then followed a slope down to 20m. The dive leader had difficulty reading his computer with his torch since the torch illuminated all of the elements of the liquid crystal display. They then unintentionally went down to a depth of 35m due to the difficulty in reading the computer. Finally realising how deep they were, the dive leader signalled that they should ascend. At around 26m the dive leader thought that their ascent had

stopped and they attempted to continue to the surface. Suddenly they found themselves in a cloud of bubbles and they broke the surface having made a very rapid ascent. Subsequent examination of the buddy's drysuit dump valve revealed that it was faulty. Neither diver suffered any ill effect.

November 2003 04/038

Two divers were at a depth of 20m when one of the pair had his regulator knocked from his mouth. He attempted to use his pony regulator but rapidly ran out of air. He started to use his buddy's alternative air source but was not comfortable and he made for the surface. He made a rapid ascent to the surface from 10m. No subsequent ill effects were experienced.

December 2003 04/398

Coastguard co-ordinated the recovery of two divers who had missed decompression stops, both were airlifted to recompression chamber for treatment. (Coastguard report).

December 2003 04/399

Dive support vessel called for assistance following a diver having missed a decompression stop, airlifted to recompression chamber for assistance. (Coastguard report).

December 2003 04/119

A trainee diver was to be taken on his first open water dive using a drysuit in cold water. He entered the water with an instructor and three other divers. The trainee completed some training in a depth of 6m, but did not seem confident or competent. He was then taken into deeper water. At a depth of 10m he began to experience problems. He spat out his regulator and, in apparent panic, pulled his mask off. Attempts were made to place an alternative air source in his mouth but these failed. Another diver brought him to the surface; they made a rapid ascent. At the surface the diver was conscious but not breathing properly. He was recovered from the water. The dive instructor is reported to have denied a request to provide this diver with oxygen and no alarm was raised at the time. The instructor advised the diver and his buddy to drive to a local hospital. The two divers were referred from hospital to a recompression facility where they received treatment.

January 2004 04/079

Two divers conducted a dive to a maximum depth of 22m. At 20m one of the pair experienced a free flow of his regulator. He used an alternative air source and made a faster than normal ascent to the surface. Their total dive time was 20 min. No subsequent ill effects were experienced.

January 2004 04/081

Two divers both experienced regulator free flows at a depth of 34m. They made a faster than normal ascent to the surface. They were given oxygen. Their dive duration was 12 min. No subsequent ill effects were experienced.

January 2004 04/082

An instructor and a trainee were at a depth of 18m when the trainee's regulator began to free flow. He used his own alternative air source and then tried unsuccessfully to switch to the instructor's pony regulator. Their ascent from 12m was rapid. Both were placed on oxygen. No subsequent ill effects were experienced.

January 2004 04/064

Two divers made a dive to a depth of 25m. At this depth, one of the divers added too much air to his drysuit and began to ascend. He was unable to control his buoyancy and made a rapid, uncontrolled ascent to the surface. His dive duration was about 15 min. His buddy followed him to 18m and then made a normal ascent including a 3 min safety stop at 6m. Both divers were safely recovered into the boat. The Coastguard was alerted. The diver who had made the rapid ascent was later placed on oxygen. No ill effects were experienced.

February 2004 04/083

Two divers were practicing the use of a delayed SMB at a depth of 18m. They lost control of their buoyancy and made a rapid ascent to the surface. Their dive duration was 20 min. Both were placed on oxygen. No subsequent ill effects were experienced.

February 2004 04/085

Three divers dived to a depth of 36m. On their ascent, at a depth of 14m, the drysuit inflation valve of one of the divers jammed and he became buoyant. One of his buddies hung on to him but was unable to prevent a rapid ascent to the surface. He was given oxygen but suffered no ill effects.

February 2004 04/106

A diver was diving with a new undersuit and undersuit boots. She descended with her buddy to a maximum depth of 29m. She felt a little light. She then found that her feet easily slipped out of the drysuit boots. Her fins stayed attached to the drysuit boots. She had to keep pulling her drysuit legs to get her feet back into the boots. After about 20 min they moved up over a rock and she was unable to release air from her cuff dump; it is thought that the undersuit had blocked the inside of the valve. She became inverted and made an uncontrolled ascent to the surface with her feet out of the drysuit boots. Her buddy went with her, attempting to slow the ascent. Their total dive time was 24 min. The buddy's computer indicated missed decompression stops. The computer of the buoyant diver failed during the dive, indicating a fixed depth of 36m and dive duration of 20 min. No subsequent ill effects were experienced.

February 2004 04/100

A diver was on his third dive of the day; he had previously dived to 23m for 24 min and to 6m for 22 min. At 18m his regulator began to free flow. He tried to use his octopus regulator but he was unable to get enough air from it so he ditched his weightbelt and made a fast ascent to the surface. He was recovered from the water and seemed to have trouble breathing properly. He was taken by ambulance to hospital.

February 2004 04/101

Two divers completed a dive to 28m for 24 min with a 1 min stop at 6m. Later they dived again to 22m. At 16m the regulator of one of the divers began to free flow. They made a fast ascent to the surface. Their dive duration was 15 min. The diver with the free flow was placed on oxygen for 20 min as a precaution. No subsequent ill effects were noted.

March 2004 04/409

Dive support vessel contacted Coastguard reporting having two divers aboard having missed 5 to 6 min of stops following a dive to 53m, a medi link was established and the Coastguard helicopter scrambled. Upon arrival the divers refused to come off the dive boat and accepting the risk remained onboard, medical advice required they do not re-enter the water and are

monitored closely. Whilst on scene the aircrew took an elderly man 79 who was seasick ashore for medical treatment. (Coastguard report).

March 2004 04/122

An instructor, a trainee, and another diver entered the water for a night dive. The plan was for the trainee to practice compass use. The trainee was wearing an unfamiliar drysuit with a new undersuit. She had buoyancy problems and struggled to descend to 6m. At the bottom the trainee commenced the compass work, but, whilst doing so, she lost control of her buoyancy and rose to the surface. She re-descended and the other two divers put rocks in her BCD pockets to help her stay down. They then moved down an underwater cliff to deeper water. The trainee started to descend quickly. She was fully occupied trying to clear her ears and unable to put air into her drysuit or BCD. At the bottom the instructor attached a buddy line to the trainee and started to move off. The trainee was on her hands and knees on the bottom. She tried to fin but could not get off the bottom. At this point she developed a bad cramp down the back of her leg. She used the buddy line to attract attention. She became anxious and started to hyperventilate. She signalled that she wanted to ascend. She put a lot of air into her suit or BCD (she was uncertain which). She started a rapid ascent. The buddy line held her back and she struggled to release it. The trainee and instructor made a rapid ascent to the surface. The third diver made a normal ascent. They assisted the troubled diver from the water. No subsequent ill effects were experienced.

March 2004 04/129

Two divers were at a depth of 21m when one of their regulators began to free flow. They made a fast ascent to the surface, missing planned safety stops. Their dive duration was 18 min. No subsequent ill effects were experienced.

March 2004 04/410

Following a dive to 61m on trimix, a diver lost control on ascent missing 30 min of stops, on surfacing given oxygen, casualty was airlifted by Coastguard helicopter to recompression chamber for treatment. (Coastguard report).

April 2004 04/126

At a depth of 16m a diver used her octopus regulator to inflate a delayed SMB. The SMB was deployed but the regulator started to free flow and could not be stopped. She felt that she could not get enough air from her main regulator and therefore used her buddy's pony regulator. This also seemed restricted and the diver became stressed with the decreasing visibility and the bubbles from the free flowing regulator. She switched to her buddy's octopus regulator. The SMB was abandoned and the divers began to sink. At 26m the buddy used her own buoyancy to bring both to the surface. At the surface the diver with the free flow did not have sufficient air to gain buoyancy so the buddy supported her until she was recovered into the boat. Their dive duration was 23 min. Computer data showed that they had ascended from 26m in 1 min. Both divers were placed on oxygen. No subsequent ill effects were experienced. It was later found that the free flowing regulator, which had an adjustable second stage, had been set to the 'sensitive' setting, and it was known to be susceptible to free flow under this condition.

April 2004 04/134

Two divers completed a dive to 19m for 20 min. 2 hours 51 min later they dived to 19m for 15 min. At 17m they deployed a delayed SMB. One diver held the SMB reel while the other diver inflated it. The reel jammed and pulled the diver holding it

upwards. His buddy tried to prevent a buoyant ascent and took the reel from the ascending diver. However this diver was unable to control her buoyancy and made a rapid ascent to the surface. Her buddy followed, making a normal ascent. Both were safely recovered into their boat. No subsequent ill effects were experienced.

April 2004 **04/193**

A diver conducted a dive to 29m. He was used to diving with a pony cylinder and a torch powered by a battery pack mounted with his main cylinder. On this dive he took neither but failed to add weight to compensate. During the ascent, at a depth of 4m, he lost control of his buoyancy and was carried to the surface, missing an indicated 19 min of stops. His buddy remained at the stop depth. The buoyant diver requested more weights from the boat and re-descended to conduct his stops. His buddy was using nitrox 57 and after he had finished his compulsory stops he passed his main regulator to the diver who had made the buoyant ascent. Others in the boat lowered another cylinder with nitrox 82 and he switched over to this cylinder. He completed his stops plus a further 3 min and then surfaced. His total dive time was 73 min including 25 min at 4m. He was recovered into the boat and placed on oxygen. They returned to the shore. The diver completed three 25 min sessions breathing oxygen with a 5 min break between each, breathing air. He did not develop symptoms and no further action was taken.

April 2004 **04/137**

Two divers were at a depth of 35m when one of them developed a problem. She believed that her regulator began to free flow and she made a rapid ascent to the surface. Her dive duration was 11 min. It is thought that she may have suffered from narcosis. At the surface her cylinder was empty. She was placed on oxygen. No subsequent ill effects were experienced.

April 2004 **04/200**

An instructor and two trainees were at 32m. One of the trainees had a free flow and started a fast ascent. During the ascent, at 27m, the other trainee also had a free flow and spat out his regulator. The instructor held another regulator in the trainee's mouth and purged it throughout the ascent. Both trainees were placed on oxygen but no ill effects were experienced.

May 2004 **04/420**

Forth Coastguard received a call from a dive support vessel reporting having a diver suffering suspected DCI following a rapid ascent, on return to shore the diver was examined by ambulance crew it was decided that no further treatment was necessary. (Coastguard report).

May 2004 **04/182**

Two divers completed a 43 min dive to a depth of 9m. 3 hours 13 min later they dived again. Their plan was to conduct a drift dive to a maximum depth of 20m. One of the divers was unable to tighten her weightbelt in the boat so she entered the water with it loose, intending to tighten it up in the water. They dived to the seabed at a depth of 9m. The diver with the loose weightbelt forgot to tighten it and, after 9 min, it fell off. The diver was carried to the surface. Her buddy heard her shout and looked around for her. He found her weightbelt, tied a line to it and ascended. The diver who had made a buoyant ascent had a pain in her hip and knee. She was placed on oxygen and the party returned to the shore. They contacted the Coastguard and the diver and her buddy were airlifted to a recompression facility. Bruising, not DCI, was diagnosed and the divers were discharged. No subsequent ill effects were experienced.

May 2004 **04/421**

Diver made a rapid ascent from 6m surfaced complaining of being cold, administered oxygen and given water, taken to hospital casualty ward. (Coastguard report).

May 2004 **04/153**

Three divers conducted a dive to a maximum depth of 22m. At this depth the regulator of one of the divers began to free flow. He attempted to use his alternative air source but was unable to find the regulator. By mistake he found his BCD mouthpiece but this was not configured as an alternative air source. The diver made a rapid ascent to the surface without a regulator. He remembered to breathe out during his ascent. His two buddies followed at a normal rate. The diver with the free flow had an octopus regulator and a pony cylinder with its own regulator, but, in panic, he was not able to make use of them. No subsequent ill effects were reported.

May 2004 **04/320**

A trainee diver was ascending from a depth of 20m. At 16m his weightbelt suddenly came off and fell away. His buddy held on to him and tried to slow the ascent. They were both carried to the surface. They were recovered into the boat and placed on oxygen. The Coastguard was alerted and the two divers were airlifted to a recompression facility. No symptoms were present in either diver but they were given a precautionary recompression treatment.

May 2004 **04/152**

Two instructors and three students were engaged in a deep diving course. They completed a 30 min dive to 22m, a 24 min dive to 20m and a 35 min dive to 20m on the first day. The following day they undertook a dive to 31m. During this dive, at a depth of 30m one of the regulators of one of the instructors began to free flow. He and the other instructor made a fast ascent to the surface missing a planned 4 min safety stop at 3m. Their dive time was 18 min. The three students also ascended directly to the surface at a faster than normal rate. The two instructors, who had made the most rapid ascents, were placed on oxygen for 30 min and monitored for symptoms. No subsequent ill effects were reported.

May 2004 **04/428**

Diver lost buoyancy control and made a rapid ascent feet first whilst wearing a drysuit, missing stops in the ascent. Upon surfacing the diver complained of a headache and was given oxygen, treated by ambulance on return to harbour. (Coastguard report).

May 2004 **04/432**

Dive vessel called into harbour to "drop off" two divers who had made a rapid ascent. They were told to go to the lifeboat station and ask for oxygen, the vessel then returned to sea with the remaining divers aboard. The divers were given oxygen by the lifeboat mechanic informing Humber Coastguard, medical advice was sought and on that advice rescue helicopter R-128 transferred both divers to recompression chamber for treatment. (Coastguard and RNLI reports).

May 2004 **04/168**

An instructor was diving with two trainees. On the bottom, at 20m, one student had a problem with a loose weightbelt and whilst this was being rectified the other trainee lost a fin. The trainee with the lost fin began to panic. The fin was replaced but the panic increased and the trainee began to rush to the surface releasing their weightbelt. The instructor grabbed both trainee and weightbelt and was able to partially control the

ascent. During the ascent the weighbelt was dropped and they made a buoyant ascent to the surface. Their dive duration was 20 min. The other trainee made a normal ascent. No subsequent ill effects were experienced.

May 2004 04/218

Two divers made a wreck dive to a maximum depth of 34m. Towards the end of the dive they ascended to part of the wreck at 23m. At this point one of the divers was buoyant and he held onto the other diver to stay down. The plan was to ascend using a delayed SMB but one of their computers already showed a 1 min stop so they started their ascent without further delay. They ascended to the surface at a slightly faster than normal rate. Their dive time was 26 min. One of their computers indicated that 3 min of stops had been missed. They were recovered from the water and placed on oxygen. The Coastguard was alerted and medical advice was sought. The divers remained on oxygen for 1 hour and were monitored for symptoms of DCI. No subsequent ill effects were experienced and no further action was taken.

May 2004 04/204

A diver completed a 34m dive with 12 min of decompression stops. 4 hours later he made a second dive to a maximum depth of 32m. As he and his buddy descended the shotline to a wreck they encountered a strong current. 16 min into the dive the buddy signalled that he had 120 bar remaining and they moved to a predetermined part of the wreck to start their ascent. The diver attached his delayed SMB to the wreck and used his main regulator to inflate it. While he did so he breathed from his alternative air source. His main regulator then began to free flow and he was unable to stop it. He was unable to reach the cylinder valve to turn off this regulator. He started to panic and headed for the surface. He switched to his decompression gas, nitrox 40, and planned to complete decompression stops. However he was unable to control his buoyancy and he was carried to the surface. He was recovered into the boat and placed on oxygen. His buddy made a normal ascent. The Coastguard was alerted and the diver and his buddy were airlifted to a recompression chamber. The diver received a 6 hour recompression treatment.

May 2004 04/208

Two divers were ascending from a dive to a maximum depth of 16m. At 10m the regulator of one of the divers started to free flow. They made a fast ascent to the surface. No subsequent ill effects were experienced.

May 2004 04/207

A diver was involved in an advanced nitrox course and she was conducting her last simulated decompression stop. She lost control of her buoyancy, became inverted, swallowed water and rose rapidly to the surface. She was panicked but otherwise unharmed.

May 2004 04/184

A diver conducted a dive to a maximum depth of 22m using a new drysuit. He started his ascent with no decompression requirement showing on his computer. He lost control of his buoyancy at 10m and made a fast ascent to the surface. His computer then showed a missed 2 min stop at 3m. Once back in the boat it was noted that he had a burst blood vessel in one of his eyes. He was placed on oxygen and the Coastguard was alerted. The diver was airlifted to a recompression facility where he received precautionary recompression therapy.

May 2004 04/368

A diver conducted a dive to 21m for 46 min with a 3 min safety stop at 6m. After a surface interval of 2 hours 51 min he dived to 15m for 44 min with a 3 min safety stop at 6m. The following day, after a surface interval of 19 hours 13 min, he dived to 25m. After 20 min he deployed a delayed SMB. Whilst doing so the SMB line became tangled with his regulator and he was dragged rapidly to the surface. He was recovered into the boat and placed on oxygen. The Coastguard was alerted and the boat returned to shore. He was taken by ambulance to hospital. He was given fluids and kept on oxygen for 4 hours. He was X-rayed for lung damage; none was found and no symptoms developed.

May 2004 04/440

Dive support vessel contacted Solent Coastguard reporting having a diver aboard having made a rapid ascent from 20m, reported convulsing on ascent was using nitrox 58, incident attributed to placing the wrong regulator in mouth on ascent (too much oxygen) reached the surface in an unconscious condition, casualty airlifted to recompression chamber by Coastguard helicopter for treatment. (Coastguard report).

May 2004 04/220

A pair of divers had conducted a dive to 52m with a 22 min bottom time. They were using trimix 18/33 as their diving gas and nitrox 80 for decompression. One of the pair was using a new drysuit which she had only used twice in a pool and once before in open water. At their first stop one of the pair deployed a delayed SMB, but whilst doing so he lost control of his buoyancy and sank down. The diver with the new drysuit then started having problems with the buoyancy in her feet. The diver with the SMB sank down a little to allow her to use the SMB line to steady herself. The diver with the drysuit problems reached 9m and switched to her decompression gas but her buddy was so intent on helping with her buoyancy problems that he forgot to switch. She was not able to signal to him to switch as she lost buoyancy control as soon as she let go of the line. Eventually the gas switch took place but both divers forgot to enter their gas switch into their computers. The diver with buoyancy problems could not ascend above 9m without losing control of her ascent. After 30 min she was running low on decompression gas and she sent an emergency delayed SMB to the surface, a pre-arranged signal that they needed additional decompression gas. The boat manoeuvred alongside their SMB and an additional 10l cylinder of nitrox 80 was lowered down to them. Both divers moved to this cylinder and the diver with the buoyancy problem switched over to it. When she next looked at her buddy he was laying backwards in the water with no regulator in his mouth and with his tongue hanging out of this mouth. She brought him to the surface and called for assistance. The boat manoeuvred to the divers and two additional divers jumped in to help. The diver that had lost his regulator was unconscious. He was recovered into the boat and found not to be breathing. The other diver was also recovered. Both had missed decompression stops. Resuscitation techniques were applied to the non-breathing diver and he was revived. He was placed on oxygen and his buddy was placed on nitrox. The Coastguard was alerted and the two divers were airlifted to a recompression facility. Both received recompression treatment and the diver who had been unconscious was given anti-biotics and kept in hospital overnight. No symptoms were reported.

May 2004 04/209

A diver completed a 36 min dive to a depth of 10m with a 1 min stop at 6m. 21 hours later he dived to 47m for 75 min including a 2 min stop at 14m, a 3 min stop at 9m, a 5 min stop at 6m and a 34 min stop at 3m. 17 hours 40 min later he dived to a maximum depth of 34m for a total dive duration of 33 min. At the end of this last dive the diver's buddy deployed a delayed

SMB and they ascended to 6m where the buddy's computer indicated that a 14 min stop was required. However the diver felt that his drysuit was very tight on his chest and that he could not breathe. He indicated to his buddy that he wanted to ascend. The buddy calmed him and the stop continued. A little later the buddy had to reassure the diver again and encourage him to continue the stop. Finally the diver was sufficiently distressed that he rose to the surface before the decompression stop was completed. His buddy surfaced with him and found him semi-conscious. At the surface the diver spat out his regulator and vomited. The buddy towed him to the boat and they were recovered from the water. They had missed 10 min of decompression. Both were placed on oxygen and the Coastguard was alerted. They were airlifted to a recompression facility where the diver was given a precautionary recompression treatment. The buddy did not have the recent history of long decompression and was not treated. No symptoms were reported by either diver.

June 2004 04/369

A pair of divers conducted a dive to a maximum depth of 35m. At a depth of 15m one of the pair deployed a delayed SMB to make the ascent. The reel jammed and the diver was dragged upwards. He abandoned the SMB and reel. He attempted to dump air from his BCD but probably, inadvertently, pressed the inflator. He made a rapid ascent to the surface. He re-descended to try to find his buddy and to complete his decompression stops. He did not find his buddy who surfaced separately. After finishing his stops he surfaced. No subsequent ill effects were experienced.

June 2004 04/192

A pair of divers conducted a dive to a maximum depth of 11m. One of the pair swam over a kelp covered boulder at a depth of 9m. He believes that the kelp became entangled with the right hand side of his weight harness and a velcro pocket opened releasing a 6 kg weight. The diver was unable to prevent a buoyant ascent to the surface. His dive duration was 32 min. He was recovered into the boat where he developed a headache and nausea. He was placed on oxygen initially for 10 min and then periodically as they returned to the shore. Back on shore the symptoms resolved and no further action was taken.

June 2004 04/268

Two divers were exploring some wreckage at a depth of 20m. Whilst inside the wreck one of the pair experienced suit squeeze. He operated the suit feed valve which stuck in the open position and fell apart. The buoyant diver was pinned against the roof of the wreck. He pushed himself out and then made a rapid buoyant ascent to the surface where he arrived with his drysuit fully inflated. His only injury was a cut to his head which he sustained on leaving the wreck.

June 2004 04/370

A diver conducted a dive to 17m for 30 min. 3 hours 10 min later she dived to 18m. During the ascent, at a depth of 10m, her weightbelt came loose and fell away. She was unable to prevent a buoyant ascent to the surface. Her buddy made a normal ascent. She was recovered into the boat and placed on oxygen. No subsequent ill effects were experienced.

June 2004 04/199

Brixham Coastguard received a call from a dive support vessel requesting assistance for an unwell diver, experiencing queasiness diver was administered oxygen and taken to Plymouth by own boat being met by lifeboat and transferred to a waiting ambulance which took the casualty to DDRRC Derriford

hospital for treatment. (Coastguard report).

June 2004 04/448

'Mayday' call received from dive support vessel indicating having taken an unconscious diver from the water, it was noted the diver's kit was hanging off, it transpired he had become trapped on the wreck, having got free, the diver made a rapid ascent to the surface. Rescue helicopter R-WB airlifted casualty to hospital and then on to recompression chamber for treatment. (Coastguard report).

June 2004 04/447

'Mayday' broadcast made by dive support boat with diver aboard surfacing without buddy, buddy located having missed stops, administered oxygen and refusing any assistance or medical attention. (Coastguard report).

June 2004 04/546

A pair of dives conducted a dive to a depth of 29m. They made a normal ascent to 8m at which point one of the pair lost control of his buoyancy and was unable to prevent himself being carried directly to the surface. He was placed on oxygen for 30 min. No symptoms developed and no further action was taken.

June 2004 04/270

Three divers conducted a dive to a depth of 36m. At 30m one of the three had a problem with his regulator. One of his buddies offered his pony regulator but the troubled diver had swallowed some water and had difficulty breathing. The other diver gave him his octopus regulator and he managed to breathe from this. They made a fast ascent from 20m, missing a 3 min safety stop at 3m. One of the buddies was placed on oxygen for 10 min. No subsequent ill effects were experienced.

June 2004 04/229

Three divers conducted a dive to a depth of 30m. Towards the end of their dive they deployed a delayed SMB and ascended to 6m. Their computers indicated between 8 and 9 min of stops required. One of the three was unable to control her buoyancy and she rose to the surface. She was recovered into the boat and placed on oxygen. The Coastguard was informed. The other two divers completed their stops and the boat returned to the shore where they were met by the Coastguard and paramedics. The diver who had missed stops was taken to a recompression facility where she received a precautionary 2 hour treatment. No ill effects were experienced. It was later found that this diver's drysuit inflation valve continuously leaked air into her drysuit.

July 2004 04/457

Dive boat reported to Stornoway Coastguard having a diver aboard who had made a rapid ascent, diver refused any medical assistance, said he was an instructor, taking oxygen and water, hourly communications with the vessel until vessel in port. No further action taken. (Coastguard report).

July 2004 04/286

Two divers conducted a dive to a maximum depth of 43m. After 18 min they deployed a delayed SMB and started their ascent. They made a 2 min stop at 26m and then continued the ascent. At 9m one of the pair lost control of her buoyancy and made a fast ascent to the surface. During the ascent she lost one of her fins. She was assisted into the boat and she asked for oxygen. The Coastguard was alerted and the diver was airlifted to shore and then taken by ambulance to a recompression facility where she received recompression treatment. She remained symptom-free throughout.

July 2004 **04/462**

Dive vessel reported having a diver aboard who had made a rapid ascent from 61m missing all stops, following mistakenly thinking he was out of air, gave out of air signal, buddy assisted, diver still panicking, rapidly ascended to the surface, Portland Coastguard scrambled Coastguard rescue helicopter R-WB who airlifted casualty to recompression facility for treatment. Poole Coastguard preparing the landing site for the helicopter. (Coastguard report).

July 2004 **04/304**

A pair of divers conducted a dive to a maximum depth of 29m. 35 min into the dive, at a depth of 24m, one of the pair deployed a delayed SMB. It is thought that dive slates had fallen out of his BCD pocket and that these became tangled in the ascending SMB. He made a rapid ascent from 24m to the surface. He disconnected himself from the buoy and re-descended to meet his buddy at 9m. His dive computer indicated that 26 min of stops were required. He decompressed using the main cylinder of his buddy's rebreather which contained nitrox 40. After a total dive time of 67 min they surfaced and were recovered into the boat. The diver who had made the rapid ascent was placed on oxygen and medical advice was sought via the Coastguard. The diver was airlifted to a recompression facility. Examination did not reveal any problems and the diver was discharged.

July 2004 **04/373**

A pair of divers conducted a dive to a maximum depth of 32m. After 30 min they ascended to 12m in about 3 min. One diver attempted to deploy an SMB but had a problem with the reel. The other diver then deployed his delayed SMB, but whilst doing so they sank back down to 15m. One diver held the reel and the other inflated it. By this time they were at 17m. The dive time was 39 min and their computers indicated a 10 min ascent time. They ascended to 3m but one of the pair was unable to control his buoyancy and he rose to the surface. His dive duration was 42 min and he had missed 8 min of decompression stops. At the surface he was tangled in the SMB line and he was unable to re-descend to join his buddy. He was recovered into the boat and placed on oxygen. His buddy completed the stops and surfaced safely. No symptoms developed and no further action was taken.

July 2004 **04/290**

A pair of divers conducted a dive to a maximum depth of 45m. After 25 min they started their ascent. They conducted a 2 min stop at 30m, a 2 min stop at 23m, a 1 min stop at 15m and a 2 min stop at 12m. They planned to make a 5 min stop at 9m and an 18 min stop at 6m using nitrox 75. As they approached 9m one of the pair lost control of his buoyancy and rose slowly to the surface without switching to nitrox and without stops. He signalled to his buddy to complete his stops, which he did. The buoyant diver was recovered into the boat and placed on oxygen. The Coastguard was alerted and the diver was airlifted to a recompression facility. The diver experienced a mild tingling in his feet whilst on the boat but medical examination revealed no signs of DCI. The diver undertook a precautionary 6 hour recompression treatment.

August 2004 **04/307**

A pair of divers conducted a dive to a depth of 33m. They prepared to deploy a delayed SMB and looked around for an anchorage point for the reel. At this point one of the pair had 105 bar and the other had 70 bar. The diver with 70 bar had the reel attached to her and her buddy was concerned that she would inflate the buoy with the reel still attached so he unclipped it and continued to seek an anchorage point. By this time the diver who had had 70 bar now had only 30 bar. Her

buddy passed her his pony regulator and they started their ascent without an SMB. At 20m the buddy experienced difficulty breathing and indicated that he wanted to ascend. He put air into his BCD. The other diver took hold of him and put air in her BCD too. They ascended from 20m to the surface in 1 min. They were recovered into their boat and placed on oxygen. The Coastguard was alerted and the boat returned to shore. Paramedics met them and they were taken by ambulance to hospital from where they were airlifted to a recompression facility. Both were given a precautionary recompression treatment.

August 2004 **04/281**

Two divers were conducting a dive to a depth of 27m when one of the pair developed cramp in both his legs. He made a fast ascent to the surface. He felt tired and had a slight headache. He was given oxygen and made a full recovery.

August 2004 **04/469**

Shetland Coastguard co-ordinated the transfer of a diver who had made a rapid ascent from 40m to a waiting ambulance and on to a hyperbaric chamber for treatment. (Coastguard report).

August 2004 **04/329**

A pair of divers planned to dive on a wreck to a maximum depth of 35m. They descended the shotline and as they got deeper one of the pair noticed that her air had an unusual taste. This got worse so she switched to her pony regulator. The shotline was off the wreck and they reached the bottom at 40m. They ascended to about 35m where they deployed a delayed SMB. They made a slow ascent. The diver who had been breathing from her pony cylinder had to switch back to her main regulator when the pony cylinder was depleted. The other diver was above her and, at about 15m, she started to have buoyancy control problems. The lower diver tried to get her to hold on to the SMB line but she did not do so. The buoyant diver became inverted and was carried to the surface; her dive duration was 22 min. Her buddy made a normal ascent with a short stop at 6m. Both were recovered into the boat. The diver who had made the buoyant ascent was placed on oxygen. She felt sick and the Coastguard was alerted. The diver then complained of 'pins and needles' in her right hand. Both divers were airlifted to a recompression facility. The tingling sensation was thought to have been due to hyperventilation and no DCI was found. However the diver had missed decompression stops and she was given a precautionary recompression treatment. Water and oil were later found in the cylinder that had delivered the bad-tasting air.

August 2004 **04/308**

A pair of divers planned a dive to a maximum depth of 18m. They entered the water from a quay and swam, on the surface, to a marker buoy. They descended to 18m and settled on the bottom. They then followed the bottom down to a depth of 23m. At this point they realised that they were deeper than intended. At this depth the water was cold and one of the pair felt uncomfortable. They decided to abort the dive. They ascended to a depth of 9m at which point the diver who had been uncomfortable on the bottom began to feel claustrophobic and to hyperventilate. His breathing rate rose dramatically and he made a fast ascent to the surface. His buddy was engulfed in a mass of bubbles and decided to follow more slowly so that he would be in a condition to assist at the surface. At the surface the buddy checked that the distressed diver was alright and called for assistance. The buddy quickly got out of the water, dekkited and then returned to help the distressed diver from the water. He was placed on oxygen and the emergency services were called. Both divers were airlifted to a recompression facility but the helicopter was unable to land there, so they were

taken to hospital. Both were then taken by ambulance to the recompression facility where they received a precautionary treatment. They were discharged later that night.

August 2004

04/360

A pair of divers conducted a dive to 50m. During their ascent they planned a 1 min stop at 21m. One of the pair was able to stop but the other had buoyancy control problems and could not. He ascended to 12m and was then able to fin back down to 21m to rejoin his buddy. He was breathing nitrox 26 and during his swim back to 21m he switched to nitrox 50. They stayed at 21m for 3 min. The diver with the buoyancy control problem also had a problem with the attachment of his decompression cylinder. He needed to use his left hand to hold the cylinder in place as it was pulling the regulator from his mouth and causing his mask to flood. He dumped the air from his BCD but air was trapped in his drysuit and he struggled to surface. He was becoming exhausted and decided to surface as slowly as he could. The diver had no symptoms of DCI but was airlifted to a recompression facility where he received a precautionary recompression treatment.

August 2004

04/482

Dive support vessel contacted Humber Coastguard reporting having a diver aboard having made a rapid ascent following a dive to 36m, casualty airlifted to Hull hyperbaric chamber for treatment. (Coastguard report).

August 2004

04/479

Solent Coastguard received a call from dive boat reporting diver had made a rapid ascent after SMB line broke re-descended released weightbelt making a rapid ascent as a result. Diver placed on oxygen, no further action taken. (Coastguard report).

August 2004

04/481

Diving support vessel contacted Humber Coastguard reporting a diver aboard having made a rapid ascent from 12m following a 49m trimix dive. Diver airlifted to recompression chamber, whilst in transit the RAF Rescue helicopter was tasked to another pair of divers proceeding to Hull Hyperbaric chamber for treatment. (Coastguard report).

August 2004

04/316

An instructor and two trainees were engaged in an extended range diving course. The descended a shotline to a depth of 33m and one of the trainees laid out a distance line for about 8 min as they swam to a depth of 34m. The other trainee then took the reel to recover the line as they returned to the shotline. He was in a head-down position and began to experience buoyancy problems causing him to start to ascend. The instructor attempted to dump air from the trainee's BCD but because he was on his side none of the dump valves was in the right position to release air. They rose rapidly. At 10m the instructor stopped and descended to complete his stops. The buoyant diver rose directly to the surface; he was recovered into the boat and placed on oxygen. The third diver returned to the shotline and made a normal ascent. Medical advice was sought by phone and the diver was taken to a recompression facility. He experienced no symptoms but was given a precautionary recompression treatment.

August 2004

04/330

Two divers were at a depth of 20m collecting scallops. The weightbelt of one of the pair suddenly became unfastened and fell away. He grabbed his buddy and they started to ascend. His buddy's regulator was knocked from her mouth. They

separated. The buoyant diver was carried to the surface. His buddy sank down a little, replaced her regulator and then made a normal ascent with a safety stop. Both were recovered into the boat and no ill effects were experienced.

August 2004

04/331

A pair of divers conducted a dive to a maximum depth of 35m. One was diving with open circuit air and the other was using a rebreather. The air diver was carrying two dive computers. When 20 min of decompression stops were showing on one computer they started their ascent. The diver then checked her other computer and found that it was showing that 50 min of stops were required. Her buddy stayed with her for part of this time and then, after experiencing buoyancy problems, he ascended to the surface. The lone diver completed a further 15 min of decompression and then surfaced. Her total dive time was 102 min of which 65 min was decompression stops. No subsequent problems were experienced. It was thought that the computers had not been correctly set before the dive.

September 2004

04/358

Three divers conducted a dive to 35m for a duration of 35 min including a 2 min stop at 6m and a 4 min stop at 3m. 2 hours 30 min later they conducted a drift dive to collect scallops. Their initial depth was 22m. The seabed then rose to 15m and they remained at this depth for 20 min. The seabed then fell away to 22m again and they re-descended. After a while one of the divers indicated that they had significant decompression stops to conduct and that they should ascend. They made a controlled ascent to 6m and conducted a 2 min stop. They then ascended to 3m. At this point one of the three ran out of air and began to use the alternative air source of one of the other divers. In doing so they started to sink back down. The third diver followed them down to 10m and the diver who was donating air then put a lot of air into his BCD. They started to ascend again and stopped at 3m. Again they started to sink and again the air donor put air into his BCD. This time the divers were carried to the surface. One of their computers indicated that a 7 min stop at 3m had been missed. No further action was reported.

September 2004

04/326

A pair of divers entered the water and descended the shotline of another boat. When they arrived at the bottom of the shot they found two divers from this other boat. One was trying to refit the cylinder of the other but was unable to do so because the clamping band had become completely disconnected. A diver from the first pair refitted the cylinder and after exchanging OK signals they swam away. Later the two divers who had had problems with their cylinder lost control of their buoyancy and made a rapid ascent. A diver from the second party helped to recover the rest of the divers and alerted the Coastguard that a diver had made a rapid ascent and was on oxygen.

September 2004

04/503

Following a 40 min 45m dive a diver missed 15 min of stops. Portland Coastguard requested rescue helicopter to transport the diver to recompression chamber. (Coastguard report).

September 2004

04/347

A pair of divers were at a depth of 20m when one of them inadvertently pressed the inflator button on her drysuit and started an uncontrolled ascent. She was unable to dump air to stop the ascent. During the ascent she ditched her weightbelt. Her dive duration was 12 min. No subsequent ill effects were

experienced.

September 2004

04/335

Three divers conducted a dive to 15m. They deployed a delayed SMB to make their ascent. The least experienced diver was placed close to the SMB line and they exchanged 'go up' signals. At this point the inexperienced diver made a rapid ascent directly to the surface. His dive duration was 18 min.

The other two ascended at a normal rate. Once out of the water the diver who had made the rapid ascent was unaware that there was a problem. About 20 min later he complained of visual problems and a ringing in one ear. Medical advice was sought by phone. DCI was not thought possible. The symptoms resolved after 20 min and no further action was taken.

Technique

October 2003

04/015

Two trainee divers were instructed to follow a line placed along an under water ledge at a depth of 6m. They failed to follow the line and instead followed the rock face down to a depth of 15m. At this depth one of the pair began to panic and spat out his regulator. His buddy put it back but he spat it out again and went for the buddy's regulator. The buddy offered his alternative air source but the panicked diver would not take it. The buddy then tried to get them both back to the surface. At this point their instructor reached them and inflated the panicked diver's BCD and he ascended without his regulator in place. At the surface the alarm was raised and the divers were recovered from the water. The panicked diver was not breathing and did not appear to have a pulse. Resuscitation was started and defibrillator pads were placed on the casualty. A faint heartbeat was detected and as oxygen was given he started to improve. The casualty was airlifted to a recompression chamber. He was given recompression treatment and released the following day. The casualty had completed a dive to 20m earlier in the day of the incident.

October 2003

04/062

Two divers practiced a controlled buoyant lift from 20m to 10m. At this point one of the divers gave the 'out of air' signal and took her buddy's alternative air source. However she put the regulator into her mouth upside down and breathed in water. She began to panic. Her buddy took hold of her and tried to turn the regulator the right way round, but without success. He tried to find the troubled diver's own alternative air source but was unable to make this available. The panicked diver bolted to the surface. At the surface blood was seen to be coming from her mouth. It was later found to be due to a cut lip. She was removed from the water, placed on oxygen and taken to a hospital from where she was discharged later that day.

October 2003

04/028

An instructor and two other divers conducted a training dive to practice controlled buoyant lifts. They dived to 20m and started the first lift. As the diver being lifted started to ascend he moved higher than the lifting diver. The lifting diver's right arm stretched upwards and in doing so pushed his regulator upwards. The regulator had a soft mouthpiece and, although it was not lost from the diver's mouth, the airflow was impeded and the seal broken. When the diver attempted to breathe in he got a mouthful of water. He thought that the regulator had a problem and so he discarded it and gave the 'out of air' signal. His buddy's alternative air source was secured by a clip and this took some time to release. The troubled diver took the buddy's alternative air source and was unable to exhale to purge the regulator so he swallowed the air/water mixture in his mouth and started to breathe. He struggled to control his breathing and signaled that he wanted to ascend. His buddy pressed the inflation button on his BCD and the direct feed hose connection parted. The buddy started to inflate the troubled diver's drysuit and it took some time for the ascent to start. Assisted by the instructor they made it safely to the surface. At the surface the troubled diver briefly lost consciousness. He was recovered to the shore by the other two. The diver was placed on oxygen and taken to hospital. He suffered stomach pains from the expansion of the air that he had swallowed. He was released from hospital later that day.

December 2003

04/042

Two divers conducted a shore dive. After around 25 min they surfaced approximately a half a kilometer from the shore. Other divers on the shore, who were not part of the same group, watched them and noticed that they did not seem to be moving. After 15min they had still not changed position and the divers on the shore signalled them to see if they were in difficulties; they did not get a clear response. A Coastguard official arrived at the scene and after some discussion summoned a helicopter to recover the divers. The divers refused help from the helicopter and were eventually recovered to the shore by a small fishing boat which was launched to help them. It is believed that one of the divers had lost a fin.

April 2004

04/181

Three divers completed a wreck dive to a maximum depth of 28m. One diver used air for the dive and nitrox 50 for his decompression. The second used nitrox 28 and the third used nitrox 30 throughout. They deployed a delayed SMB to make their ascent. The two divers using nitrox as their dive gas conducted a 5 min 30 sec stop at 10m and a 5 min 30 sec stop at 5m and then surfaced. The diver who had dived on air conducted a 4 min stop at 6m and an 18 min stop at 3m. Signals were exchanged during the decompression but these were misunderstood resulting in the diver who had been using air as his dive gas completing his decompression alone. For a while this diver's location was not known by those at the surface but he deployed his own delayed SMB. A diver from another party was asked to descend to check that he was alright and he waited with him until he surfaced safely.

April 2004

04/135

Two divers had dived to a maximum depth of 21m. At 17m one of the pair ran out of air. He used his buddy's alternative air source and they made a normal ascent to the surface.

April 2004

04/136

Two divers were near the end of a dive to a maximum depth of 14m. One of the pair prepared to deploy a delayed SMB. She wore her octopus regulator on a cord around her neck and thus chose to switch to this regulator so that she could use the longer reach of her main regulator to inflate the buoy. When she made the switch she did not get the octopus regulator into her mouth correctly and she inhaled some water. She attempted to switch back but again inhaled water and began to cough. Her buddy, who was on his first sea dive, took hold of her and put air into her drysuit. They made a rapid ascent to the surface. Their dive duration was 30 min. Neither diver suffered subsequent ill effects.

April 2004

04/143

Two divers dived to 19m for 42 min. 2 hours later they started a second dive. As they moved down an underwater cliff face, at a depth of 14m, one of the divers experienced flooding of his mask. He started to panic. His buddy saw that there was a problem and that the panicked diver did not have his regulator in his mouth. The buddy brought the panicked diver to the surface and raised the alarm. The divers were recovered into a boat. The casualty had stopped breathing. Oxygen-assisted resuscitation techniques were applied and the emergency services called. The casualty recovered consciousness and was taken to hospital by ambulance.



April 2004

04/202

A trainee diver was over-weighted. At the surface, at the beginning of a dive, his octopus regulator started to free flow. He was unable to control his buoyancy and position, he became inverted and started to panic. An observer at the surface shouted for help and ran to get assistance. The observer fell up some steps and cut her head. Both diver and injured observer recovered.

May 2004

04/203

A trainee diver completed a 30 min dive to 8m. Once back at the surface he did not inflate his BCD and started to panic. He swallowed water, started to hyperventilate and came close to losing consciousness. He was recovered from the water and placed on oxygen. He made a quick recovery.

June 2004

04/272

An instructor and a trainee conducted a dive to a maximum depth of 14m. They started the dive exploring a wreck and the instructor then deployed a delayed SMB so that they could finish with a drift dive. During the drift dive the trainee finned into the current for a while to look at a crab. The instructor was unable to remain with him because of the drag on the SMB. They became separated. Both divers surfaced safely and they were recovered into their boat.

July 2004

04/374

A pair of divers were ascending from a dive to 20m. At 15m the hood of one of the divers filled with air. This dislodged her mask and knocked the regulator from her mouth. At the surface her buddy raised the alarm and they were recovered from the water. The diver was taken by helicopter to a recompression facility. No symptoms were present but the diver was given a precautionary recompression treatment. She was placed on antibiotics for ten days because she had swallowed water.

September 2004

04/348

A trainee diver was engaged in mask clearing drills in a depth of 9m. He removed his mask but then had difficulty replacing it. The drill was terminated and the trainee was helped to the surface via a shotline. He was having difficulty breathing and he was coughing. He experienced pain in his diaphragm and difficulty breathing out. He was placed on oxygen and medical advice was sought. He went to hospital but no problems were found. It is thought that he had ingested air causing stomach pains.

Equipment

January 2004 04/068

A pair of divers began a dive to a maximum depth of 20m. After about 2 min the regulator of one of the pair began to free flow. He switched regulators and attempted to stop the free flow, but could not. With his air supply at 100 bar he switched to his pony regulator and his buddy turned off his main cylinder. They then made a normal ascent including a 1 min safety stop at 6m. Their total dive duration was 9 min.

January 2004 04/073

Two divers were 3 min into a dive at a depth of 19m. At this point the regulator of one of the pair began to free flow. He took his buddy's alternative air source and the buddy then turned off his main air supply. However when it was turned back on the regulator continued to free flow. The buddy turned the air off again and they ascended to 6m where they conducted a 3 min safety stop. During this stop the air was turned back on again and this time the regulator functioned correctly. The diver switched back to his own regulator and they completed the dive safely. Their total dive duration was 12 min. No subsequent ill effects were experienced.

January 2004 04/144

Two divers dived to a depth of 21m. 11 min into the dive the regulator of one of the pair began to free flow. The pair settled onto the bottom and decided that the diver with the free flow would surface using his pony regulator. At around 15m he lost control of his buoyancy and ascended rapidly to 4m. He dumped air and sank back to 8m where he rejoined his buddy. By this time the diver's main cylinder was empty and he was not able to put air into his BCD or drysuit. He had to fin hard to ascend and he made a fairly rapid ascent to the surface. At the surface he orally inflated his BCD. No subsequent ill effects were experienced.

January 2004 04/094

Two divers were at a depth of 17m. One of the pair had 140 bar remaining in a 15l cylinder and he turned the contents gauge to show his buddy. This action caused the gauge to become detached from the hose and the gauge was lost. The dive leader provided him with an alternative air source and they made an ascent at a normal rate to the surface. At the surface the diver with the lost gauge was still able to inflate his BCD. Their dive duration was 28 min. No subsequent ill effects were reported.

February 2004 04/098

An instructor and two trainees were at a depth of 14m conducting a lifting bag training exercise. About 10 min into the dive the instructor was demonstrating how to fill the bag with his octopus regulator when it began to free flow. He was unable to stop the free flow and he ascended to the surface with the two students. At the surface he had 20 bar remaining. The water temperature was 10 deg C. No subsequent ill effects were reported.

February 2004 04/099

A diver was practicing the mid-water deployment of a delayed SMB using his octopus regulator. The regulator began to free flow and he was unable to stop it. The instructor passed his alternative air source to the student and then turned student's air supply off and then on again in an attempt to stop the free

flow. This did not work so he turned the air supply off again. They then made a safe ascent to the surface. Their total dive time was 13 min. The water temperature was 10 deg C. It was thought that sand may have entered the regulator and contributed to the problem. No subsequent ill effects were reported.

February 2004 04/102

Two divers had dived to a maximum depth of 25m. At 22m one of the pair breathed in a mouthful of water and discovered that the mouthpiece had separated from his regulator. He switched to his alternative air source and they made a safe ascent to the surface including a 2 min safety stop at 6m.

March 2004 04/127

A pair of divers dived to a maximum depth of 35m. At 25m one of the divers' regulators began to free flow. This diver used his buddy's alternative air source and they made an ascent at a normal rate. Their dive duration was 20 min. At the surface the diver with the free flow was a little disorientated but no subsequent ill effects were experienced.

March 2004 04/128

Two divers were at a depth of 35m when one of the pair's regulators began to free flow. He switched to his pony regulator and made an ascent missing a planned safety stop. His dive duration was 6 min. He was given oxygen as a precaution.

April 2004 04/147

Two divers conducted a dive on a wreck. Towards the end of the dive, one of the pair secured a reel to the wreck and inflated a delayed SMB using his octopus regulator. The regulator began to free flow and he was not able to stop it. He realised that he had drifted above his buddy and out of her sight so he ascended to the surface. His buddy made a normal ascent with the SMB. The diver with the free flow was seen to arrive at the surface in a cloud of bubbles. He was recovered into the boat and placed on oxygen. Medical advice was sought. The diver was monitored but no ill effects developed and no further action was taken.

June 2004 04/221

Two divers conducted a wreck dive to a depth of 20m. Towards the end of the dive, one of the pair indicated that she had 70 bar remaining and they made their way to a shallower part of the wreck. The dive leader prepared a delayed SMB. He inflated it with his octopus regulator. The regulator began to free flow. The free flow was so powerful that it jetted off out of his reach. The SMB began to ascend and pulled on the reel. The diver released the reel lock but the handle tangled on the reel lanyard. The diver was impeded by a camera that he was carrying and the mass of bubbles. He managed to free the reel and sent the SMB to the surface. He signalled to his buddy and switched to her alternative air source. They started their ascent but were unable to prevent themselves being carried directly to the surface, although the ascent was not rapid. At the surface they signalled for assistance and were recovered into the boat. Both were placed on oxygen but neither suffered any symptoms. It was later found that the regulator design meant that the purge button was susceptible to being jammed by sand.

June 2004 04/210

A diver completed a 28 min dive to a maximum depth of 22m using a regulator that had just been serviced. Once back on shore he rinsed his regulator with fresh water and left it to dry. The following day he assembled it to a cylinder in preparation to dive when he heard an air leak. He move the hoses and the second stage regulator fell off the hose. A new hose had been fitted during the service and the regulator had not been securely fastened to it. The diver refitted the regulator correctly and had no further problems.

June 2004 04/235

A trainee diver was being taught a forward roll entry into a swimming pool. When he attempted the entry he did not conduct it correctly and his face mask struck the water flat. The glass shattered. The diver was not injured. Other divers recovered the broken glass and the pool was further cleaned with vacuum equipment.

June 2004 04/241

When kitting up to dive, a group of divers noticed that the air in their diving cylinders smelled and tasted contaminated. They aborted their dive and contacted the air supplier. It was established that excessive compressor oil was in the air and it was deemed necessary to have all the cylinders involved cleaned.

June 2004 04/371

Three divers conducted a dive to a depth of 18m. As they descended one of the pair felt a little cold and underwater he had problems with buoyancy control. Their dive time was 25 min and they made a 3 min stop at 6m. At the surface the diver who had had buoyancy control problems struggled to stay at the surface and became exhausted during a swim back to the boat. His two buddies helped him to get back to the boat. Others helped him from the water. Once in the boat it was discovered that his drysuit contained a large amount of water. It was

thought that his zip had not been correctly closed at the start of the dive.

June 2004 04/196

A diver was preparing for a dive. She was using a regulator that had just been serviced. As she kitted up air was heard leaking from her equipment. She took the set off and as she did so the second stage regulator fell away. It was discovered that the regulator had not been securely tightened to the feed hose during the service. The regulator was correctly refitted and no further problems were experienced.

August 2004 04/319

A compressor operator conducted an internal inspection of a diving cylinder prior to filling it with oxygen and then air to generate nitrox 36. He discovered that the cylinder was rusted heavily internally. The cylinder was considered to be dangerous and it was later condemned. A few weeks earlier the cylinder had been completely emptied whilst it was underwater. Water had entered the regulator and it required a service as a result. It is thought that water also entered the cylinder thus generating the rust.

September 2004 04/327

A diver dived to a maximum depth of 18m. At 15m the connector of his regulator hose failed and became disconnected. He inhaled some water. He made a rapid ascent without an air supply. His total dive time was 30 min. He was placed on oxygen and then on nitrox 70 when the oxygen was depleted, and he was given fluids to drink. No subsequent ill effects were experienced. It is reported that the hose to his BCD was severely perished and that he had had a high pressure hose fail the previous day.

Miscellaneous

November 2003 04/512
Lifeboat launched to assist diver. False alarm. (RNLI report).

January 2004 04/400
999 call received from member of the public expressing concern for a shore diver seen 20 min previous and 100 yards offshore. The diver appeared later having dived alone causing many resources to be tasked. No medical attention required. (Coastguard and RNLI reports).

January 2004 04/402
Member of the public called Coastguard expressing concern for persons aboard a drifting dinghy, their safety was established and sarops terminated. False alarm with good intent. (Coastguard report).

February 2004 04/405
Concern expressed by member of the public for inflatable which appeared to go out of sight whilst on passage, broadcasts were made to alert vessels in the area of a possible distress. Transpiring that the vessel was safe and the two divers aboard were safe and well. False alarm with good intent. (Coastguard report).

February 2004 04/515
Two lifeboats launched to assist divers. Two persons brought in. (RNLI report).

February 2004 04/406
Following a report from member of the public, investigations were carried out for diver in apparent difficulty, transpiring that the diver was conducting rescue training. (Coastguard report).

April 2004 04/520
Lifeboat launched to assist diver. False alarm. (RNLI report).

April 2004 04/163
Two divers conducted a dive from the shore. Their dive plan took them around a small island. They swam too close to the island and, in a depth of 6m, began to be affected by wave surge. They were pushed into a blind gulley on the island and the surge became stronger. They attempted to swim away but were forced onto rocks. One of the pair ditched her weights in an attempt to get out of the water on the rocks but she was swept back into the water. They attempted to attract the attention of people on a nearby headland but there was no apparent response. They managed to get into deeper water and swam back to the shore on the surface. After about 5 min an inshore lifeboat appeared. The people on the shore had raised the alarm. The divers suffered no ill effects.

May 2004 04/434
Solent Coastguard connected dive vessel to duty diving doctor, advice give to monitor casualty and transport to hospital if any symptoms developed. (Coastguard report).

May 2004 04/524
Lifeboat launched to locate missing diver(s). False alarm. (RNLI report).

June 2004 04/269
A diver made a dive with borrowed equipment and a suit that was too tight for him. With his buddy he made a 35m surface swim at the start of the dive. At this point he became tired and out of breath. He shouted for help. He was recovered from the water and placed on oxygen. After 10 min he had made a full recovery.

July 2004 04/534
Lifeboat launched to assist a dive boat that was overdue. Others coped. (RNLI report).

July 2004 04/467
Solent Coastguard received a call from a member of the public reporting a diver in difficulties under South pier, Police launch asked to respond finding no trace of the diver or boat on arrival. False alarm with good intent (Coastguard report).

August 2004 04/483
Forth Coastguard received a relay call from Aberdeen Coastguard of a person reporting a diver in possible difficulties, after investigation by a lifeboat it was confirmed as being a yacht race marker. False alarm with good intent. (Coastguard report).

August 2004 04/499
Portland Coastguard received a 999 call from a member of the public reporting concern for two snorkellers diving under a berthed vessel. Swanage Coastguard investigated. False Alarm Good Intent. (Coastguard report).

September 2004 04/346
A trainee and an instructor were engaged in an advanced diving course. At a depth of 30m the trainee had a panic attack and the instructor brought her to the surface. Their dive time was 12 min. At the surface the panic attack continued, she was given oxygen and an ambulance was called. Eventually the diver recovered and no further action was required.

September 2004 04/508
Shetland Coastguard received a call of two divers in difficulty, lifeboat Coastguard team and Coastguard helicopter proceeded, divers reached shore unaided before rescue services arrived on scene. (Coastguard report).

Overseas Incidents

Fatalities

August 2004

04/297

A group of divers were approached by a police launch. They were informed that a snorkel diver was missing and they were asked to assist. They travelled at high speed to the site and two pairs of divers were deployed to search. Within two min of diving one pair located the missing snorkel diver lying on his back on a rock at a depth of 15m. They removed his weightbelt and brought him to the surface. One of the pair applied AV to the casualty, at the surface, until he was recovered into the police launch. The casualty was taken rapidly to hospital and after 90 min of resuscitation his heartbeat was restored and he was placed on a ventilator. He died two days later.

attended a recompression facility where further sessions of recompression therapy were given. DCI was diagnosed and dehydration, a long flight, lack of sleep and alcohol were thought to have been contributory factors. Treatment was continuing at the time of the report.

July 2004

04/284

A diver completed a series of dives over a ten-day period. On the tenth day he dived to 28m for 41 min, then after a 4 hour 33 min interval, he dived to 28m for 42 min. 1 hour after surfacing he developed a 'blotchy bruise' on his stomach. This marking grew over the next 30 min. He was placed on oxygen and the boat started a 4 hour trip to shore. The casualty was taken to a recompression facility where he received three sessions of treatment. After this treatment the casualty was symptom-free. The casualty had had a previous DCI, four years earlier.

Decompression Illness

October 2003

04/030

On the fourth day of a diving expedition a diver completed a series of four dives. Dive one was not specified but after a 2 hour 9 min surface interval he dived to 27m for 54 min with a 10 min stop at 6m, 2 hours 9 min later to 29m for 53 min with a 10 min stop at 6m and then, 1 hour 53 min later, to 27m for 42 min with a 2 min stop at 9m and a 10 min stop at 6m. After dive three he lifted his diving equipment back into the boat and thought that he pulled a muscle in his shoulder. Later that day the pain in his left shoulder was still present, and there was numbness and a skin rash on the shoulder. He was placed on oxygen and medical advice was sought. He was taken to a recompression facility where he was treated for DCI.

August 2004

04/340

A diver completed a 35 min dive to a depth of 30m. He dived using nitrox 30 with nitrox 50 for decompression. During his ascent he conducted a 2 min stop at 18m, a 2 min stop at 12m and a 3 min stop at 6m. Once back on the boat the diver became very dizzy, had significant balance problems and was vomiting. He was placed on oxygen and the emergency services were alerted. The diver was airlifted to a recompression facility. Examination revealed that he had nystagmus. He was given a series of seven recompression treatments over a four day period by which time the symptoms had almost disappeared. He was released from hospital on the fourth day. A DCI in the inner ear was diagnosed. The diver was advised to seek examination for a PFO.

October 2003

04/031

A diver completed a 41 min dive to 27m with a 2 min stop at 3m. 1 hour 41 min later she dived again, this time to 26m for 45 min with a 6 min stop at 6m. 30 min after surfacing from the second dive she complained of stomach pain and then collapsed. She was placed on oxygen and remained semi-conscious. The boat returned to the shore and the casualty was taken to hospital. From hospital she was taken to a recompression facility for treatment. She suffered total blindness throughout the 24 hours following the dive. She was discharged from hospital, fully recovered, two days later. The diver reported, as potentially contributing factors, that she had been under emotional stress in the weeks leading to the dive, that she had not been on a regular diet and that she had started her menstrual cycle on the day of the dive.

September 2004

04/318

A diver conducted a dive to 12m and after a surface interval of 3 hour he dived to 10m. The duration of each dive was 30 min. Afterwards he stated that he had had difficulty clearing his ears and he was advised to take decongestant medication. The following day he dived to 15m for 30 min with a 3 min stop at 6m. Again he experienced difficulty clearing his ears. The following day he dived to 22m for 35 min with a 3 min stop at 6m. After this dive he had a mild ear and sinus pain. The following day the pain remained and he sought medical advice. A neurological DCI was diagnosed and he was given recompression treatment. This resolved his symptoms and he was discharged from hospital the following day. It was thought that he had sustained a minor barotrauma on the first day and that the subsequent dives had worsened the condition.

June 2004

04/258

A diver completed a 40 min dive to a maximum depth of 32m with a 3 min stop at 6m. 1 hour 40 min later he dived to 26m for 34 min with a 3 min stop at 6m. 30 min after his second dive he suffered a severe headache and he felt dizzy and faint. He had a rash on his back. He was placed on oxygen but lost consciousness when the oxygen ran out. He was given more oxygen and a doctor was called. Dehydration was diagnosed and he was given further oxygen and placed on a fluid drip. 24 hours later he had not improved. He was then given a 6 hour recompression treatment. 15 min after leaving the chamber he suffered a fit. He was taken to hospital and placed on oxygen and a fluid drip. Four days later he returned to the UK and

Illness / Injury

October 2003

04/019

A diver was preparing to enter the water. Standing on a pontoon he attempted to fit his left fin. His right knee gave way, he slipped on the wet surface and fell heavily onto his right knee joint. This fall caused minor pain to his knee. He completed a 40 min dive to 35m with a precautionary 3 min stop at 6m. On surfacing he still had a pain in his knee and the following day he sought medical advice. The diagnosis was an aggravation of the lateral ligament of the knee and he was advised to rest the knee for a week.

November 2003 **04/063**

A group of divers conducted a dive to a maximum depth of 20m. They were briefed that they might encounter strong currents and to surface at a pre-arranged point to be recovered into two inflatable boats. They surfaced at the designated point but the boats were not there. They signalled to and the boats were dispatched to collect them. By the time the boats arrived they were caught in a current and swept toward shallow water over a reef. The boats were unable to pick them up from the shallow water. Two divers hung onto one of the boats as it tried to pull them into deeper water but they were in danger from the propeller and the attempt was abandoned. The divers were carried across the top of the reef at high speed and dropped into calm water at the other side, where the boats were able to recover them. The divers received a number of cuts to hands and legs from the coral of the reef and one diver lost a fin.

February 2004 **04/097**

A trainee diver completed a 34 min dive to a maximum depth of 18m. At the start of the dive he conducted a training drill which involved an ascent to the surface from 5m using an alternative air source. 1 hour after the dive he complained of pains in his left elbow. He was placed on oxygen. It was noted that his left arm was weaker than his right. He was taken to a medical facility and kept on oxygen for a further 1 hour.

March 2004 **04/113**

A diver conducted a dive to 34m for 38 min with a 4 min safety stop at 6m. 2 hours 55 min later he dived to 31m for 37 min with a 4 min safety stop at 6m. After the dive the diver reported a pain in his shoulder. He was given a medical examination and strained muscle was diagnosed. Later that day the diver felt a 'click' in his shoulder and the symptoms resolved.

April 2004 **04/170**

Three divers dived to a maximum depth of 30m. 20 min into the dive at a depth of 20m, one of the three signalled that he was unwell and retched a number of times. The dive leader took hold of him while he regained composure. They then ascended slowly. The troubled diver indicated that he was all right but then that he was unhappy. The dive leader decided to abort the dive. They made a normal ascent. Once back in the boat the troubled diver complained of a headache and of feeling nauseous. He vomited a number of times. Medical advice was sought and carbon dioxide build-up in the diver's regulator was suspected. He dived the next day using different equipment without a problem. The following day he dived again with different equipment but again had problems, retching underwater and vomiting in the boat after the dive. It was concluded that the dive equipment was not at fault and further medical advice was being sought.

May 2004 **04/174**

Two RHIBs were moored together alongside a jetty. The sea state became rough and a cox boarded the boats to move the outer one to prevent them from damaging each other. In the process of unclipping the boats a large wave struck them and the cox's hand was trapped between the 'A' frame of one of the boats and the bow of the other. His hand began to swell. The casualty sought medical advice and severe bruising was diagnosed.

August 2004 **04/317**

A diver conducted a series of ten dives over a five day period. On the final day he dived to 28m for a duration of 50 min including a 2 min stop at 6m. 10 hours after this dive he started to get pains in his left shoulder and elbow. He was placed on oxygen and medical advice was sought. He went to hospital

and was kept on oxygen and placed on a drip. He was then flown by plane to a recompression chamber where he received treatment. His symptoms did not change. Further medical tests were conducted and it was concluded that the diver had not suffered a DCI.

September 2004 **04/349**

A diver was diving on a wreck to a maximum depth of 35m. At a depth of 26m he entered the wreck and in doing so he brushed his hand against a sharp edge of the wreck. One of his fingers was cut to the bone. He completed the dive. Later he attended hospital where the cut was treated.

Ascents

October 2003 **04/012**

Two divers conducted a 15 min dive to a depth of 14m. They made a fast ascent to the surface and as a result were placed on oxygen and returned quickly to the shore. One of the divers reported 'pins and needles' in his right hand but this was thought to be due to tight gloves which were removed. The emergency services were alerted and the divers were taken by ambulance to hospital from where they were later released. No subsequent ill effects were reported.

March 2004 **04/114**

A pair of divers dived to 23m. During their ascent, one of the pair was unable to control the buoyancy of his drysuit and he made a rapid ascent. His buddy made a normal ascent. The diver who had made the rapid ascent was placed on oxygen. The emergency services were alerted and the diver was taken ashore. He was then taken by ambulance to hospital. The diver had no symptoms and was released from hospital later that day. It is thought that the undersuit blocked the drysuit dump valve.

May 2004 **04/175**

Two divers made a descent to a wreck at a depth of 20m. One diver then experienced a problem with her regulator and took the other diver's octopus regulator. The octopus regulator was then knocked from her mouth so she used her own pony regulator. The divers started to return to the mooring line but the diver with the regulator problem also experienced buoyancy problems as a result of the valve malfunction. Her main regulator then began to free flow, adding to the confusion. The buddy decided to bring them both to the surface and a very rapid ascent was made. They moved from 20m to the surface in less than 30 seconds. Their dive duration was 8 min. Both divers were recovered from the water and placed on oxygen. Diving medical advice was sought. No symptoms of DCI were experienced and no further action was taken.

Technique

June 2004 **04/195**

A pair of divers were diving on a wreck to a maximum depth of 32m. One of the pair entered an enclosed area of the wreck. The floor appeared un-silted and he checked behind him on two occasions to make sure that he was not stirring up silt. He took several pictures and when he turned round to leave, he was confronted with low visibility and he could not see the exit. He felt around the walls but could not find the way out. He found a port hole but was unable to attract the attention of those

outside. He waited for a few min for the silt to settle but realised that it was his bubbles disturbing rust from the ceiling. He tried again to find the exit but failed. He then saw the beam of a torch. His buddy had obtained a torch from other divers and was indicating the exit. His exit was blocked by a large piece of machinery. Eventually he got round this and managed to exit the wreck. On exit he lost a fin which fell back inside and was not recovered. They were now at 20m. The diver took more photographs and then got to the shotline where they made their ascent. They conducted a safety stop at 6m and left the water. The diver who had been trapped in the wreck had 20 bar remaining at the end of the dive.

Equipment

February 2004

04/095

A group of divers were at a depth of 23m when the pillar valve O ring of one of the group suddenly failed. The contents of her cylinder were lost in about 90 sec. She moved to her buddy and took his alternative air source. These two and another diver then made a safe ascent to the surface. No subsequent ill effects were experienced.

April 2004

04/157

Two divers were diving using rebreathers. After about 20 min, at their maximum depth of 43m, one of the divers noticed a gas leak from the pressure gauge of the rebreather of the other

diver. The pressure gauge read between 25 and 35 bar and they were required to conduct decompression stops. The divers immediately started their ascent. A 2 min stop was conducted at each of 24m, 15m and 9m. The rebreather with the leak was fitted with a separate 1.5l oxygen cylinder and at 6m the main 10l cylinder was switched off and the rebreather was operated manually as an oxygen rebreather. It was subsequently found that the high pressure hose had burst and the escaping gas caused the gauge to read low; the pressure in the cylinder was found to be 110 bar. Neither diver suffered any ill effects.

April 2004

04/225

A group of divers were diving from a charter vessel. Whilst the divers were in the water the charter vessel began to drag its anchor. The skipper attempted to relay the anchor but experienced difficulties with the anchor winch. The skipper refused requests to launch a tender to cover the divers. The first group of four divers surfaced and were able to swim to the boat. The second group of four surfaced further away and struggled to swim to the boat against a surface current. One of this group was low on air and used a buddy's alternative air source for the surface swim. This diver also struggled to stay positively buoyant. Three snorkel divers were sent from the boat with lifelines to assist the second group. These snorkel divers were unable to orally inflate the troubled diver's BCD. All were safely recovered into the boat and it was found that the troubled diver's BCD had a loose dump valve which allowed the air to escape.

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.

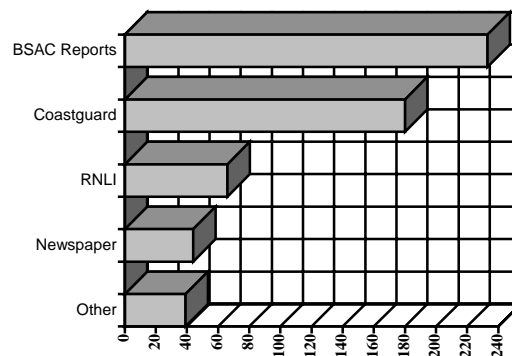
Incident Report Forms can be obtained free of charge by phoning BSAC HQ on **0151 350 6200**
or from the BSAC Internet website.

Numerical & Statistical Analyses

Statistical Summary of Incidents

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|----------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Incidents Reported | 385 | 351 | 315 | 397 | 452 | 397 | 439 | 465 | 453 | 409 | 498 |
| Incidents Analysed | 385 | 351 | 315 | 370 | 431 | 382 | 417 | 458 | 432 | 392 | 445 |
| UK Incidents | 322 | 318 | 295 | 349 | 404 | 357 | 384 | 433 | 414 | 366 | 423 |
| Overseas Incidents | 9 | 33 | 20 | 21 | 27 | 25 | 33 | 25 | 18 | 26 | 22 |
| Unknown Locations | 54 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| UK Incident - BSAC Members | 164 | 157 | 136 | 101 | 135 | 128 | 113 | 122 | 149 | 162 | 154 |
| UK Incident - Non-BSAC Members | 8 | 20 | 4 | 29 | 52 | 47 | 52 | 94 | 55 | 74 | 72 |
| UK Incident - Membership Unknown | 213 | 178 | 175 | 219 | 217 | 182 | 219 | 217 | 211 | 130 | 197 |

UK Incident Report Source Analysis



Total Reports: 562
Total Incidents: 423

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 | 9 |
| 2000 | 41,692 | 6 | 11 |
| 2001 | 41,272 | 9 | 13 |
| 2002 | 39,960 | 4 | 10 |
| 2003 | 38,340 | 5 | 6 |
| 2004 | 37153 | 6 | 19 |

LIST OF ABBREVIATIONS USED IN INCIDENT REPORTS

| | |
|-------|---|
| AV | Artificial ventilation |
| AWLB | All weather lifeboat |
| BCD | Buoyancy compensation device (e.g. stab jacket) |
| CAGE | Cerebral arterial gas embolism |
| CG | Coastguard |
| CPR | Cardiopulmonary resuscitation |
| DCI | Decompression illness |
| DDRC | Diving Diseases Research Centre (Plymouth, UK) |
| ECG | Electrocardiogram |
| EPIRB | Emergency position indicating radiobeacon |
| GPS | Global positioning system |
| Helo | Helicopter |
| HMCG | Her Majesty's Coastguard |
| ILB | Inshore lifeboat |
| IV | Intravenous |
| LB | Lifeboat |
| m | Metre |
| min | Minute(s) |
| MRSC | Marine rescue sub centre |
| PFO | Patent foramen ovale |
| POB | Persons on board |
| RAF | Royal Air Force |
| RHIB | Rigid hull inflatable boat |
| ROV | Remotely operated vehicle |
| RNLI | Royal National Lifeboat Institution |
| SAR | Search and rescue |
| SMB | Surface marker buoy |
| 999 | UK emergency phone number |