

mountain rescue

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WELCOME TO ISSUE 55

Mountain Rescue is the membership magazine for mountain and cave rescue in England and Wales.

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NEXT ISSUE ISSUE 56

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Editorial copy must be supplied as Word document. Images must be supplied as high resolution (300 dpi) JPG/EPS/TIFF/PDF.

Advertising artwork must be supplied, ready prepared on CD or via email as font embedded high resolution PDF/EPS/TIFF (300 dpi).

Cover story

An elderly man and his two old Labrador dogs being evacuated by team members from his home on Warwick Road in Carlisle on the Sunday morning of flooding in Cumbria. © Karen Phillips-Craig (Penrith team member).

PLEASE NOTE

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first Word

MIKE FRANCE



In my last 'First word' I talked about developments in UKSAR and how this is a fast moving area that will change the face of Land SAR as we know it. I think longer term they will become our governing body (not calling agency) and Land SAR organisations will work together as one body undertaking different tasks. There's a lot of work to do before this happens so I'm working with others in MREW to educate UKSAR to look inwards to the hills and mountains, not just out to the water. Below is a small part of my reply to UKSAR about questions asked of government funding. I'm aware a lot of money goes to the SAR community, but at the moment it's not coming to Land SAR and we need to keep letting people know that.

'UKSAR Operators Group members have been asked to consider how the introduction of government funding to voluntary SAR charities may change the traditional provision of voluntary SAR services within the UK, looking at potential changes, opportunities, improvements and governance, post the grant awards scheme.'

Part of my reply: *'MREW received £30K from Libor funding plus the final sum from the last government grant money, a total of around £200K. This is a very small share of the £9million available during the course of 2013/14. The Libor money is very welcome but there are no guarantees MREW will receive the grants it applies for and preparing good quality application forms increases the workload and pressure for officers who are doing this freely, with no opportunity to top-slice the grant for administration costs. At the moment it is not known how much reclaiming VAT will release to the organisation. It will benefit individual teams, the bigger, busier teams may do okay but, for the smaller teams, still essential to the organisation, it will not make a lot of difference.'*

'While I can understand that the UKSAR Strategic Committee would want to see how such a large amount of money could be used to improve the overall provision of SAR services, it is difficult to make strategic plans for the next five years when there is no guarantee of the amount, if any, that will be awarded.'

Times are changing and we need to be proactive or we will be left behind. I attend all external meetings with the statutory agents

representing mountain rescue, including a new one for us, the Voluntary Sector Civil Protection Forum. This meeting was held at the Civil Contingency Secretariat, Cabinet Office. The attendees are made up of Category 2 representatives who are very much the welfare and recovery phase of an incident. The benefit of us sitting at this meeting is to inform the group 'just' what we do. One of the members is the link to ministerial meetings, there was also the representative to NPCC. The meetings in London, Royton (College of Policing) and Southampton (UKSAR) have now become part of mountain rescue's remit and us having a voice, this means lots of travelling but if we want to be seen as an equal we need to sit at the table.

On 5 December, I attended a meeting of our FPG where we spent time talking about UKSAR and how FPG could help with these changes, it will not happen overnight and members will need an understanding of how UKSAR works and how this effects all of us. It was a good meeting getting our heads around a difficult subject, then members started taking calls and checking pagers as the floods in Cumbria took hold. I won't go on about this, but I am proud of being a member of an organisation that can come together with so many skilled members working for the common aim of helping others in difficulties. There will be learning and at some point LDSAMRA will share that with us. Watching SARCALL, LDSAMRA were on top of this incident from start to finish. I know there was flooding in other areas of the north of England and many teams had their own incidents to deal with. I would also like to thank the many people working in the background getting stories and pictures out there for all to see. Our next full meeting will be the AGM where I hope you will formally vote Dave Close in as secretary, also John Wealthall who is taking on the role of equipment officer and Elaine Gilliland, our new assistant secretary. Big thanks to Richard Terrell for all the work he's done with equipment over the years. And thanks too to Neil Hayter who is standing down as fundraising chair. Mike Margeson is very keen to get on with the Operations Group. We do need some feedback through the chairs' meeting on 16 January, but the next 'First word' is over to Mike to explain where we are up to with this. ●



WILLIAM AND KATE VISIT NORTH WALES: 20 NOVEMBER 2015

The event was hosted by Mountain Rescue England and Wales and members of the North Wales teams, at the Towers Outdoor Education Centre in Capel Curig, North Wales.

The Duke and Duchess of Cambridge were in North Wales to visit a number of mental health projects. It was a day that had taken some months in the planning and, early in 2015, MREW chairman Mike France had been approached to help find and organise a venue for one of those visits. The result was a second MREW event this year at the Towers, which was also the venue for the Princes' Charities Day in July. The young people involved were from Holyhead High School.

Since William became our patron in 2007, MREW has regularly worked with a range of charities supported by the Duke

and Duchess and Prince Harry, creating activity days for children, young people and families who might otherwise not be able to share those experiences.

The young people from Holyhead were part of a group that has been working with Ynys Mon and Gwynedd Mind on anti-stigma and discrimination training. The day of activities was put together by members of the North Wales teams.

'It was designed to be partly a thank you to the young people for their commitment to supporting their peers,' says Ogwen Valley press officer, Chris Lloyd, 'and partly as a chance for them to enjoy the

outdoors and experience the mental health benefits of time in the mountains for themselves'.

Fourteen members from the six North Wales teams took part, along with Mike France and other members of the executive committee. The thirteen young people enjoyed an abseil, a zipwire and a via ferrata rock climbing route.

'The Duke and Duchess were keen to meet the young people and the mountain rescuers too,' says Mike. 'This is typical of their friendly approach to the charities they support and it was thoroughly appreciated.'

Earlier in the day, the Royal couple had been in Caernarfon to visit a photography project



Top left: Left to right: Chris Lloyd, Andy Harbach, Tim Radford (OVMRO); Mike Margeson, Penny Brockman (MREW); the Duke and Duchess of Cambridge; Mike France, Dave Close (MREW); Ian Ashcroft, Gerald Davidson (NEWSAR); and Pauline Hallett (OVMRO) © Jo Worrall.
Top right: The Royal couple © Penny Brockman.

EQUIPMENT UPDATE:

RICHARD TERRELL

The November meeting was a strange one for me this year, fifteen years to the very meeting at which I first got involved with the equipment group. Over the course of those years, I have met and worked with some great people, many of whom have become life-long friends.

In 2008, I became national equipment officer, at the time reportedly one of the youngest officers ever on the exec. Not long afterwards, a comment

was made about the exec, along the lines of, you're all old men with beards, who smoke and drink beer. I replied that I was 32, clean shaven, a non-smoker and drank cider!

The workload has increased over the years and I've made it no secret that the reason I



stood down was I could no longer give the commitment I felt the role needed.

So what I am saying in my final article as

equipment officer is this: there have been times when a 'them and us' attitude has been present and often a finger has been pointed at the exec. As Mike France said at the last meeting, we are all 'mountain rescue', all active members of teams and the decisions we make affect our own teams as well. So this is a plea to all the younger, newer team members out there to step up and get involved. There are currently officer vacancies. This is your MREW, please come and help. I did and I hope I made a difference. As a wise friend said to me once, to sing the

song you need to be sat around the campfire.

Finally, a big thank you to past and present members of the equipment committee for their work, guidance and patience over the years; to Ray Griffiths, my vice chair and good friend for all his help and guidance; my postman and my wife for putting up with the stream of letters and parcels turning up at the door and endless phone calls. All that is left to do is to wish John Wealthall all the best in the role. I am sure he will do a great job.

national news

meetings

MREW BUSINESS AND COMMITTEES
Saturday 21 May 2016
Lancashire Police HQ, Hutton

MREW BUSINESS AND COMMITTEES
Saturday 17 November 2016
Lancashire Police HQ, Hutton

To book in, contact: **Dave Close**
secretary@mountain.rescue.org.uk

Or speak to the relevant officer for your subcommittee – contact details available on the MREW website.



INTRODUCING THE NEW MREW EQUIPMENT OFFICER: JOHN WEALTHALL

A retired police officer who has worked in both Northumbria and Thames Valley forces, John takes over the equipment role as Richard Terrell stands down.

'I have long had a deep feeling for the outdoors and inherited a love of the fells and walking in general from my grandfather. On leaving the force in 2009, I worked as a volunteer at Longridge, an outdoor centre near Marlow in Buckinghamshire for five months, before following my dream to live in Cumbria. I moved here in January 2010 and started work at the YMCA National Centre at Lakeside, Newby Bridge, Cumbria.

'My work involves the maintenance, checking and restocking of all the equipment used for the many outdoor activities on and off the site. I am also partly responsible for the maintenance of the activities on site as well as general work around the site.

'I have been a member of the Duddon and Furness MRT since January 2011 and am currently their equipment officer. I also lead walks for the Lake District National Park in what spare time is left!



...AND NEW ASSISTANT SECRETARY: ELAINE GILLILAND

Elaine takes on the role as Dave Close steps into the secretary's seat.

'Born in Hertfordshire in 1967, I spent my formative years in a small village in Somerset where I forged my love of the outdoors. I joined the armed forces in 1985 and carved

out my mountaineering career in Canada, Sardinia, Italy and Bavaria before leaving through marriage, living and working in the City of London. After leaving the armed forces I studied for a master's in business and MSc in sociology. I also have a diploma in both coaching and mentoring, and a degree in physical education and sport science.

'I moved to the north west in 1999 and have since worked in and with NHS services, currently working in Primary Care Transformation. I have been a member of Bolton MRT for eight years and am an honorary member of SARDA Wales. I spend most of my free time in the mountains, climbing, scrambling and hiking whenever possible.'

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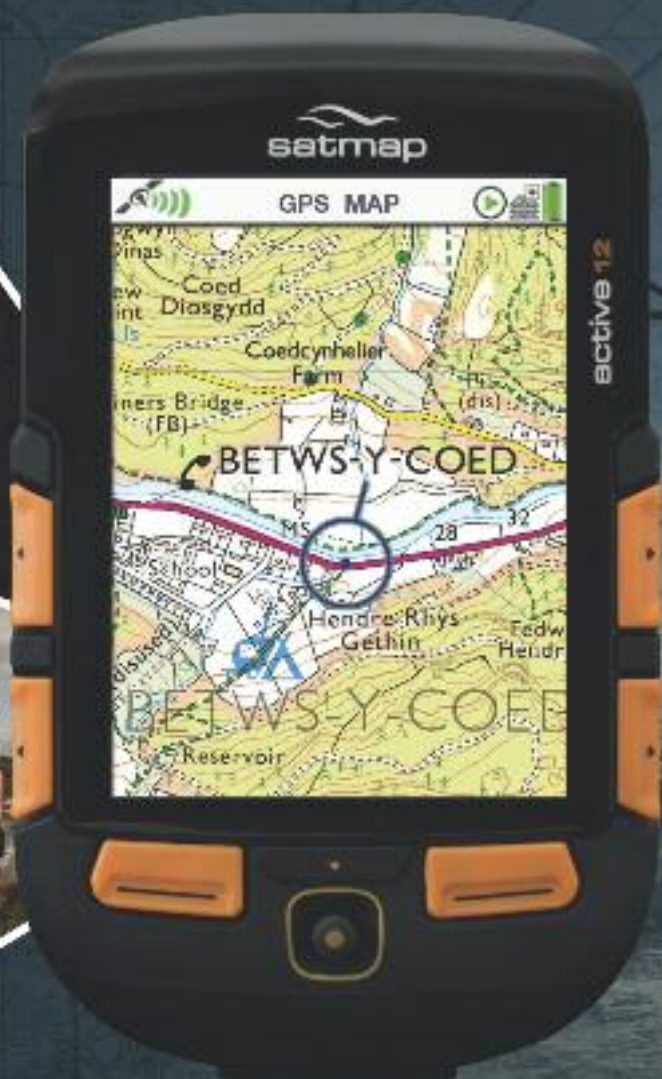
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IN THE

news

MREW PR consultant and media trainer **Sally Seed** looks at an aspect of media coverage from the past few months and suggests things to be learnt for future media relations.

Stretching your story

Something that was discussed during the most recent MREW media interviews workshop was how best to handle the media during an extended search situation. This related directly to a long search in the Scilly Isles earlier this year but it is a situation that could affect any team so it seemed worth a column.

In some ways, it's very easy — the same rules apply as for any other incident or event.

Firstly, make sure that partners in the emergency services and their press officers are aware of any statements that you're issuing or interview requests. This is especially important if there's been a fatality or there's a strong likelihood that there will be one. In those circumstances, MR teams must hold off on any sort of report or announcement until the official police statement is out. And a journalist on the spot should realise very quickly that you'll say nothing, and you certainly won't speculate, until an official announcement is made.

Social media is the other issue. As anyone on the workshop or at the recent Party Leaders' course will know, my basic rule is to handle social media — not only the team's official channels but also team members' personal feeds — in the same way you would a press release. Same sort of scope, same limits and same timings. If you wouldn't issue a statement, don't say anything online BUT, once you can issue a statement, encourage team members to link to it on your website so that people see the bigger picture of what the team's about.

But what if you and your colleagues have been involved in a search for several days and the media are on the spot and hungry for anything new they can report?

This is when it gets trickier as there's a huge demand for 'news' but nothing happening that's new. From past experience, here are a few suggestions of how to help the

media and give them something to report without really having anything new to say!

• **Get the volunteer message across sensitively** — the middle of a search isn't the time to blithely talk about volunteers available 24/7 and needing funds but it is still possible to get part of that message across. The best way is with some thank yous. Thank the team members' employers for letting them take part and thank their families for supporting them. If you can add some figures to your message (see below), so much the better.

• **Think in terms of facts and figures** — in a news drought, a few quirky facts and figures can go a long way and there may be people in the local community who'd be happy to help on this. For instance, in the coverage of a recent Cumbrian search (that was still ongoing on press day for the local paper), a few stats about the large number of cups of tea and bacon sarnies served to volunteers in the village hall made it into the paper along with a grateful comment from the local MR team!

• **Talk about training and equipment** — if a journalist insists on following a group of searchers around, try to allocate someone to escort them. This can be a difficult role but it's a good opportunity for them to talk about how the search is organised, the skills that come into it, the regular training done by the

team (and recruitment of suitable bodies!) and the equipment being used. This gives the journalist an insight into the expertise of the team.

• **Work with partners** — the paid emergency services are the obvious partners in a search situation but it can help to talk to journalists about any connections you've had locally with MIND, with the Alzheimer's Society or with the Samaritans. Connections between different voluntary sector organisations are often not acknowledged and can make useful stories as well as reinforcing the voluntary nature of MR too.

Just one final thought: media often pick up on the anniversaries of key events. Be prepared for these with facts and figures about changes in your team in those years, numbers of incidents, trends in types of incident, investments and improvements in equipment and even how donations, awareness or support changed after the original incident.

I hope some of these are useful as you think about your media processes and ideas. If you've had to manage an extended event and cope with media scrutiny over several days, I'd like to know more. Please get in touch via sally@stoneleighcomms.co.uk or via the editor. Thanks. ●

GET THE VOLUNTEER MESSAGE
ACROSS SENSITIVELY – THE MIDDLE OF
A SEARCH ISN'T THE TIME TO BLITHELY
TALK ABOUT VOLUNTEERS AVAILABLE
24/7 AND NEEDING FUNDS



NEW KIT FOR THE NEW YEAR

Since 1974 we've been bringing you the latest in outdoor innovations, by working with renowned outdoor brands who pride themselves on being the best in their fields. With our combination of expert advice and unsurpassed range of products, whatever kit you're looking to replace this season, we've got you covered. If it's a new waterproof you're after, the new Zeta LT jacket from Arc'teryx features GORE C-KNIT Backer Technology. This new backer allows greater breathability and reduces weight when compared to existing three-layer systems. When you're moving through changeable conditions, the extra breathability means you don't have to keep stopping to take the jacket off, great if you need to move fast and efficiently. The new Hi-Q Luxe jacket from Montane features PrimaLoft's Gold Insulation Luxe, a synthetic down alternative that's highly water resistant. Lightweight, with a 100% windproof PERTEX Quantum Rip-stop outer, superior DWR and PrimaLoft Gold Insulation Luxe; the Hi-Q Luxe is built to offer superior 'warm when wet' qualities, making it an ideal winter jacket. When things turn vertical, the Snaggletooth crampons from Black Diamond are at home on the slopes. Forged for precision on mixed ice and rock climbs, the Snaggletooth has a horizontal mono-point, as well as a smaller secondary point for extra stability on snowy approaches. These revolutionary crampons provide the precision you need with the stability you want.

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How to get in touch with not just the officers and trustees but also some of the key specialist advisers who assist in running the organisation: producing the magazine, maximising PR opportunities, developing and maintaining SARCALL and securing insurance cover on your behalf.

who?

your management team



CHAIRMAN: MIKE FRANCE

chairman@mountain.rescue.org.uk

Represents mountain rescue with Government, the emergency services, other SAR organisations and The Princes' Charities Forum. A member of Woodhead MRT.



VICE CHAIRMAN: MIKE MARGESON

vice-chairman@mountain.rescue.org.uk

Works on operations and governance, supporting the officers in their roles. Currently developing a peer review process. Team leader of Duddon and Furness MRT.



SECRETARY: DAVE CLOSE

secretary@mountain.rescue.org.uk or

Acts as an interface between teams, regions and the MREW management team. He is a member of Dartmoor SRT (Ashburton).



FINANCIAL DIRECTOR: PENNY BROCKMAN

treasurer@mountain.rescue.org.uk

Penny continues in the role in lieu of a new appointment. She manages MREW finances and the administration of grant monies and continues to review the financial systems. Penny is team leader of Central Beacons MRT.



MEDICAL: MIKE GREENE

medicalofficer@mountain.rescue.org.uk

Represents mountain rescue in medical matters to the Government, the emergency services and IKAR, and maintains the morphine licence. Mike is a member of Wasdale MRT.



PRESS OFFICER: ANDY SIMPSON

pressofficer@mountain.rescue.org.uk

Deals with the press, TV and radio, and supports teams in their own publicity, chairs the communication group (PISC) and is also chairman of Rossendale & Pendle MRT. Vice chair: Judy Whiteside: editor@mountain.rescue.org.uk



VEHICLES: DARYL GARFIELD

vehiclesofficer@mountain.rescue.org.uk

Works with the police, Government and teams in all matters 'vehicles'. A member of Penrith MRT. Vice chair: Paul Smethurst: smethyp@gmail.com



WATER: ANDY LEE

waterofficer@mountain.rescue.org.uk

Works to establish the necessary guidance and standards to ensure the safety of members in a water environment. Andy is a member of Edale MRT.



ICT: MARK LEWIS

ictofficer@mountain.rescue.org.uk

Develops comms technology across mountain rescue. Mark is a member of Western Beacons MRT. Vice chair: Iain Nicholson: iaim@sardogs.org.uk



EQUIPMENT: JOHN WEALTHALL

equipmentofficer@mountain.rescue.org.uk

John takes over from Richard Terrell, looking after all things equipment. He is a member of Duddon and Furness MRT.



ASSISTANT SECRETARY: ELAINE GILLILAND

assistant-secretary@mountain.rescue.org.uk

Assists Dave Close in the secretary role. Elaine is a member of Bolton MRT.



TRAINING OFFICER: AL READ

trainingofficer@mountain.rescue.org.uk

Develops training and guidelines for team members at all levels across a range of disciplines. Al is a member of Ogwen Valley MRO. Vice chair: Tim Cain: tim@timcainleadership.co.uk



BCRC: BILL WHITEHOUSE

bcrc@mountain.rescue.org.uk

As chairman of BCRC, Bill represents the interest of cave rescue and supports the management team. He is also a trustee of the Benevolent Fund.

internal trustees



MREW CHAIRMAN: MIKE FRANCE

chairman@mountain.rescue.org.uk

Part of Mike's remit as MREW chairman is to represent the interests of the organisation at trustee meetings, to ensure the smooth running and continued governance of the organisation.



SHIRLEY PRIESTLEY

shirley.priestley@mountain.rescue.org.uk

Shirley has been a member of the Scarborough and Ryedale MRT since 1990, during which time she has undertaken a variety of roles at all levels. She is also treasurer of the Benevolent Fund.



MARK HODGSON

mark.hodgson@mountain.rescue.org.uk

Mark has a wealth of mountain rescue experience, with one of the busiest teams (Keswick MRT), and an impressive attendance record over many years. Team leader for twenty years, he stood down in 2013 but continues to be involved with rescues.



CHAIR OF TRUSTEES: PAUL AMOS

paul.amos@mountain.rescue.org.uk

An Emergency Management and Leadership Development consultant, Paul also lectures on field operations at Coventry University and teaches flood rescue management at strategic level. He was with Hereford and Worcester FRS for fifteen years.



STEVE WOOD

steve.wood@mountain.rescue.org.uk

Steve is well known within the SAR community through his work at Mapyx Limited which has long been a supporter of all charitable rescue organisations.



PHIL PAPARD

philip.papard@mountain.rescue.org.uk

Phil has been a member of the Cave Rescue Organisation for over forty years, serving as controller, training officer and chairman. He retired as Principal Inspector in the HSE in 2012, after 25 years.



PETER DYMOND

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Peter's professional background is with the UK Maritime and Coastguard Agency (MCA) and the Coastguard Rescue Service, the volunteer emergency response arm of the MCA.

PRESIDENT: PETER BELL

president@mountain.rescue.org.uk

VICE PRESIDENTS: TONY JONES & PETER HOWELLS

external trustees

specialist advisers



EDITOR: JUDY WHITESIDE

editor@mountain.rescue.org.uk

Provides design and editorial services for the magazine. Outside her role as editor, she assists in a number of areas in communication, publications and marketing and supports the fundraising group. Judy is also secretary of the Benevolent Fund.



INSURANCE: NEIL WOODHEAD

insurance@mountain.rescue.org.uk

Member of Kinder MRT and chairman of the Benevolent Fund. He is consulted by the management team and other specialist advisers on insurance matters, helping to manage the insurances we have in place. He will also offer basic help and assistance to teams with their general queries.



SAR-H: JOHN HULSE

SAR-H@mountain.rescue.org.uk

The creator of SARCALL and a team leader of the Ogwen Valley MRO, John continues to lead on the SAR-H migration process.



PR SUPPORT: SALLY SEED

sally@stoneleighcomms.co.uk

Supports Andy Simpson and Judy Whiteside in their roles and provides PR advice and support to MREW and teams where required, seeking to improve communication both internally and externally. Sally also helps deliver media skills training.



STATISTICS: ROB SHEPHERD

statisticsofficer@mountain.rescue.org.uk

Collects and collates incident information from the teams. A member of Llanberis MRT and North Wales CRO, he is also involved with SARDA Wales.



PROCUREMENT OFFICER: DAVIE THOMPSON

procurementofficer@mountain.rescue.org.uk

Davie will be looking to establish an effective purchasing policy, including an online catalogue and training modules in how to negotiate better deals at team level. He is a member of Swaledale MRT.

...turn to page 62 for BCRC contacts

PEER REVIEW UPDATE

TIM CAIN



I had intended to write a sitrep about how I thought things were progressing on the peer review front. However, I recently received an email from Kev Camplin, team leader at BPMRT. His words pretty much summed up my thoughts so I have Kev's permission to use his words here instead.

He said: 'Many thanks for the feedback, it must have taken some time and effort to pull together, again many thanks in taking the time to visit us at Bowland Pennine MRT, I hope we made you feel welcome.'

I've just read your feedback, all very good points, thank you, and as such I have forwarded it to our committee and my controller management group for their comments on how we can action your points and move on. I don't think there's any area that you have commented on that we can't improve on, fantastic for me as TL and a great experience for us all I believe.

One thing for sure, participating and assisting LDSAMRA and working on the floods in our own area [during December] goes to show how well our MR community works together. Hopefully your comments will push our team forward and makes us all better and more efficient.

Once again I thank you all for your valuable time, it is very much appreciated by Bowland Pennine and myself.'

Thanks Kev for your kind words. We are constantly learning lessons and refining the process as we go along. There have been a few teething problems, however, I am committed to learning and listening in order to evolve the process for the good of the users. I am currently putting together the diary of events, with Wasdale MRT up next in January 2016. Six other teams have expressed an interest, two of which I will visit in January for our initial coordinating meeting.

So far, I have sixteen very experienced people in the pool of volunteer reviewers including 'observers' from MRCofS. I hope others will continue to offer their services as we build upon success. All you need is a good understanding of how a mountain rescue team functions, an open, enquiring mind (nosy will do!) and a sense of humour. Contact me at tim@timcainleadership.co.uk, it will be good to have your help in shaping our future. ●

A PERSONAL VIEW

TIM COX, CHAIRMAN, BPMRT

I had a cunning plan: as soon as the prospect of the team participating in a peer review reared its ugly head I would engineer my exit strategy, handing over the chairmanship in the interests of revitalising the committee with new blood. Not so much 'rats leaving a sinking ship' as the team is definitely not sinking, just a rat jumping ship! Imagine my surprise when I learnt that the TL had offered us up to the sacrificial altar as guinea pigs, the first team to be peer reviewed.

I thought I could have relied on our team leader's military background and the mantra 'Don't volunteer for nothing' — which, it being a double negative, he seemed to followed too literally and stuck his hand up.

So, after an initial meeting between Tim Cain and our team leader, Kevin Camplin, to discuss the format, the question set landed in my inbox with a metaphorical thump: sixteen pages with 98 questions!

I'm from a teaching background and lived through and just survived the introduction of OFSTED. On first sight the question set smacked of an OFSTED inspection. And after careful examination, it still smacked of

an OFSTED inspection, with an emphasis on policies, procedures and SOPs. TLAs — Three Letter Acronyms — should be banned. We use the term 'Operational Notices' rather than SOPs in order to avoid this issue.

Recommendation No. 1: Ensure that the key stakeholders (TL, DTL, medical, equipment, vehicles and training officers) are ready with pens poised to complete their sections of the question set in order to share the burden. As it is almost entirely based on operational issues there is little direct involvement of non-operational committee post holders such as chairman, secretary

and treasurer. As chairman, I should have kept my head below the parapet.

Recommendation No 2: The team leader should set aside a whole day to collate the information supplied by the key stakeholders and compile the answers to the questions.

It was agreed that the three peer reviewers would descend upon us during our November training weekend based at Smelt Mill, our residential centre in the Trough of Bowland, available for hire through the booking secretary — see the team website (I bet that bit gets edited out).



Above: Peer review team: Left to right: Tim Cain, Swaledale MRT; Karen Frith, DTL Penrith MRT; and Roger Hartley, chairman Scarborough & Ryedale MRT.
Below: Medical scenario. Images © Bowland Pennine MRT.



Tim introduced the review of the question set by explaining that the idea was to hold up a mirror so that the reflection would create lightbulb moments and provide the key to open the cupboard. (My old English teacher might refer to this a mixed metaphor; I can't remember the last time I had a lightbulb moment, I think my bulb has blown!) After the review of the question set with the key stakeholders, we had intended to show off our search and rescue skills with a call-out exercise on the Friday evening. Little did we expect that the review would take six hours, concluding at 1.00am. The call-out exercise was done and dusted and the team members back for tea and medals before we'd finished.

Recommendation No 3: Set aside the first day of the peer review to go through the question set and try to ensure that all the key stakeholders are present.

Recommendation No 4: Don't try to blag it, if you haven't got a SOP for dealing with fatalities, for instance, just say so. You won't pull the wool over Tim's eyes.

We tried to soften up the peer reviewers by sharing our barrel of beer with them, keeping them up until the early hours of the morning with tales of daring deeds and mispers found.

Day 2 dawned with typical Bowland weather: it was lashing it down. Undeterred, after bacon and sausage butties, the team set off for the exercise venue where a round-robin of six medical scenarios was planned. This is more like it, actually doing something rather than just talking about it. It took a little while to get the exercise casualties, the scenario observers organised and the team members into fell parties. The comment, from one of the reviewers, 'Are your training exercises always this chaotic?' was studiously ignored and we were soon into action.

Recommendation No 4: Assign a team member to each reviewer to act as a chaperone to guide them around the training exercise, introduce them to team members and field any questions raised. The stated aim is for the reviewers to speak with at least 60% of the team members on the exercise.

All seem to be going swimmingly (pun intended in view of the deluge of rain threatening to drown the exercise casualties) but then, out of the blue or, more correctly, out of the grey skies, came a gust of wind which took hold of

our gazebo. We have a large market stall-style gazebo which is used to provide shelter at various events. Imagine our dismay when the aforementioned gazebo sailed across the country lane, ricocheting off a dry stone wall, ending up in a recumbent posture on the fell side. This would have probably made a suitable subject for a David Allan cartoon.

Recommendation No 5: Write a SOP about anchoring down the team gazebo with the ten-inch metal spikes provided. It's a good thing we don't have a 'No blame' policy as the ensuing witch hunt as to who forgot to peg it down would not have been half so much fun.

Then it was back to base for lashings of tea and cake in front of the log fire for the team members and a hot debrief to the key stakeholders from Tim.

Recommendation No 6: Appoint someone as scribe to take notes of the debrief to share with those who skived off home early.

A couple of weeks later, Tim addressed the MREW at Hutton and we were invited to nominate one of the key stakeholders to join him on stage to chip in with their views and answer questions from the floor. As Kev was attending anyway, I suggested he was the obvious choice. I had to get my revenge somehow.

At the time of writing we have received the written debrief but not the feedback visit, therefore it may be a little early to jump to conclusions. However, I can say that the peer review has highlighted areas where the team can make improvements in its processes and procedures and has acted as catalyst in order to make the necessary changes sooner rather than later. I would recommend other teams to sign up to the scheme as it's a win-win situation. ●

Timeline:

12 October 2015: Initial visit between peer review lead and team leader
13 October 2015: Question set circulated to key stakeholders.
30 October 2015: Return of question set deadline
6 November 2015: Review of question set answers.
7 November 2015: Team training exercise and hot debrief.
4 December 2015: Written debrief received from peer review lead.
17 December: Feedback visit peer review lead and key stakeholders.
First quarter 2016: Outcomes to team.

NEWLY CONFIGURED MREW PARTY LEADER COURSE HAILED A GREAT SUCCESS

The weekend of 27/29 November saw thirty-four members, from mountain and cave rescue teams, in England and Wales travel to Colomendy in North Wales to attend the new Party Leader course.



Attendees from Northumberland to Cornwall and from north and south Wales arrived on the Friday evening to an admin and buffet reception. The weekend began with a series of lectures and practical exercises aimed to assist them in their development as party leaders.

Lectures covered subjects as diverse as police expectations of mountain rescue, party leadership in trauma and medical situations, crime scene and forensic protocols, briefing and reporting, five-man party and teamwork and media and social media.

During Saturday afternoon participants were able to apply the theory to a number of practical outdoor scenarios, with each attendee given the opportunity to practise party leadership in 'real time' situations with guidance from instructors and mentors.

On Sunday, all participants undertook observed party leadership in a number of situations with full debrief on each situation. Finally, on Sunday afternoon, participants, mentors and instructors joined together to recap their initial expectations of the course and the key learning points of the weekend.

The success of the course is fundamentally down to the commitment of the instructors, mentors, casualties and helpers over the weekend. The amount of input from all was exceptional and the organisers Elaine Gilliland, Iain Ashcroft and Steve Nelson would like to thank all who contributed to this. The course would not have been as positive and effective if the participants had not been as enthusiastic and committed to their own learning. What a great group of people.

Thanks also to the management and staff at the Kingswood Centre, Colomendy, whose help and support contributed greatly to the success of the course.



INSURANCE MATTERS

NEIL 'WOODIE' WOODHEAD

One question I'm asked time and time again relates to the older members of a team and what age limits apply to the various insurance policies. It's actually very straightforward.

- No age limit under the liability policy.
- No age limit under the legal fees insurance.
- No age limit under the vehicle insurance, but obviously they need to have a valid driving licence.
- The only policy with restrictions is the personal accident policy, which has an age limit of 80 and reduced benefits for anyone over 75.

What is very important is to risk assess each team member. Irrespective of age, are they fit and capable to be part of your hill team or a response driver? The risk rests with the team, just as it is if someone is incapable due to injury or health problems. Remember: should anything happen, it's the team officials in the firing line when difficult questions are asked about why such and such was carrying a stretcher or driving a response vehicle etc.

Perkins Slade have now set up a dedicated page on their website for MREW at perkins-slade.com/for-sports/mountain-rescue-england-and-wales. This includes contact details for seeking a quotation for insurance of your base, contents and equipment.

Gloucestershire CRG did just that and the response from Paul Taylor says it all: 'Just to let you know that GCRG have been in contact with Perkins Slade regarding our buildings and contents insurance. They came back with a very good price that will save the group over £120 this year. A big thanks to you and whoever else was involved for the work on arranging this. Every amount saved is very much appreciated. I hope other teams will take up the offer.'

Thanks for the feedback Paul — always good to know the work put in at national level is beneficial at a local level.

The **civil liability policy** is renewing shortly, so please help me once again with completing the declaration required. This will be sent out shortly, if it hasn't already landed in your team's inbox (and MREW website). It's really important to complete and return a declaration to continue having the protection of our policy.

The **legal costs insurance** for team members is now in force for 35 teams. Is yours one of them? Full details are in the members' resources section of the website but, in brief, the covers are listed below and these are 24/7 — not just when on mountain or cave rescue activities.

- Motor prosecution defence.
- Criminal prosecution defence.
- Representation at a public enquiry or coroner's office.
- Attendance expenses at a public enquiry or coroner's office.

Changes to named members and other teams wishing to take out this cover can be made at the renewal next October, but not in the meantime.

If you are planning fundraising activities for 2016, it's important you know what the liability policy does and doesn't cover — see the guidance note on the website. Acceptable fundraising activities include collections and tin shakes, talks, demonstrations, slide shows, stands at county fairs and carnivals, sponsored and challenge events including walks, abseiling and mountain biking (subject to details being lodged with insurers at least six weeks before the event), standby cover at fell races, provision of first aid at third party-organised events (medical malpractice excluded) and providing hill awareness and navigation guidance (including time on the hill). These must all undergo the appropriate

risk assessments and an audit trail must exist to confirm this and be retained on the team's file for a minimum of three years.

Some activities are NOT acceptable to insurers. These include duathlons, triathlons, urban rat races, dragon boat racing, kayaking, hire of mobile climbing walls and the use of any mechanically propelled devices on land/air/water. The reason these are not immediately acceptable is that these activities generate claims, many of a substantial size. Any type of event promoted as a race is unattractive to insurers. They prefer you to offer events termed as a 'challenge' and record finishers in strict alphabetical order only, as competitors can have a single-minded determination that overcomes a need to act responsibly to themselves and those around them.

Insurers may consider some of these 'not acceptable' activities at an additional premium — payable by the team involved. Before submission we require full risk assessments, full details of the proposed event, how will it be marshalled and run etc. Each event will be on a stand-alone basis and MREW requires notification at least two months in advance to give insurers ample time to consider. Any activities involving mechanically propelled devices on land/air/water are not acceptable whatsoever and you will need to arrange separate alternative cover.

Remember, as always, if you have any queries please just email insurance@mountain.rescue.org.uk and I'll give you what help and assistance I can. Also look at the members area of the website where policy documents and guidance notes can be found and downloaded. ●



Twelve short films were shown as part of the annual Cumbria Short Film Competition at the Old Laundry Theatre in October. The six-minute film, directed and produced for Mountain Rescue England and Wales by Dave Freeborn, was one of those screened and won first prize in the Documentary category.

MOUNTAIN RESCUE FILM TAKES TOP AWARD IN CUMBRIA SHORT FILM COMPETITION

Dave received the award from Guy Pocock of event sponsors, Lakes Training Solutions. The winner attracted a £100 prize as well as a broader showing to a film-loving audience and Dave immediately pledged to donate the cash to the film appeal campaign — which he duly did. A long-standing member and ex-team leader of Patterdale MRT said 'it was great to have this piece of work — which was partly paid commission and partly a labour of love — recognised for its documentary and production values.'

John Hamlett, co-director of the film said, 'Dave and I are both commercial filmmakers from Cumbria and work on a variety of local and national projects — but we also love the fells and mountain rescue!'

Since its launch in April 2015, the six-minute film — and now the shorter 60-second version — have been regularly shown at a number of high profile locations, including Rheged in Penrith, the newly-opened Pontio Performing Arts and Innovation Centre in Bangor (where it made an impressive appearance on the Imax screen prior to 'Everest'), and the Thames Clippers (in a silent version).

SARCALL UPDATE AFTER STORM DESMOND

JOHN HULSE

A lot of work has been done to further enhance SARCALL including major work on improving security, performance and refining the logger. Much of this work is not visible to users but has been essential to keep the system secure, robust and reliable. With 1,250 active users across more than 150 organisations, the need for proactive and prompt support is massively important.

The Helpdesk is the frontline for users and the SARCALL team work incredibly hard to support teams and Cat 1 responders to get the best from the system. To further increase support, the regional admins group is also being strengthened with new people.

Storm Desmond hit the UK in December causing massive damage to communities across Cumbria, the North East and Borders. This event proved the biggest test for SARCALL and it is really pleasing that the system delivered the required capability for the teams, police and ambulance service. As part of the out-of-regional response, the MR Silver groups in Scotland, Lakes, North Yorkshire, Mid-Pennine, Peak District, North Wales and PenMacra organised their regional responses using SARCALL. Almost all inter-regional Silver, much of the Silver to Bronze tasking and all the call-outs were done using SARCALL and the incident logger.

The level of activity surprised us all. In the 24 hours between midday Saturday and Sunday, there were 10,021 SMS messages — more than twice the highest previous daily rate. The LDSAMRA teams created more than 30 incident logs for both Bronze and Silver levels, resulting in more than 1,500 individual log entries. In those 24 hours, there were more than 1,800 successful log-ins into the system.

During the storm and the response phase, the SARCALL tech team kept a careful watch on the servers to ensure it was running safely

and with spare capacity. At the peak of activity, the server processed fourteen webpage requests per second and still had capacity for even larger loads.

Beyond Storm Desmond, new calling authorities are steadily being added including North East Ambulance Service, Northumbria Police and Dyfed-Powys Police. Several more are expected to join in the next six months. SARCALL is now used by 59 of the 60 MR teams from Oban in Scotland down to Cornwall. And, in October, the system was taken up nationally by the RNLI flood response teams for tasking their teams and to share situational awareness with other SAR teams.

As we head towards the end of the transition from military to civilian SAR provision, SARCALL is now used in four of the new bases and hopefully will soon be in the remaining coastguard helicopter bases with a footprint that covers mountainous areas. The system is used in the bases to help give crews a 'heads-up' that a SAR team within their footprint has been called out by the police, fire or ambulance service.

Finally I want to sincerely thank all the SARCALL admins for their patience, commitment and incredible dedication to support our users at all times of night and day, together with huge amounts of hard work to keep everything running smoothly as possible. Fantastic effort!

PREVENTION BETTER THAN CURE

Floodstore offers advice, training and equipment for residential, commercial and resilient communities regarding flood risk. We offer solutions before, during and after floods and other emergencies.

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MROC 4x4 committee members taking delivery of the latest batch of radios from Sarcomm.

RELIABLE, RESILIENT, RENEWABLE

Recent weather events have shown us that the ability to position rescue crews from differing parts of the country while on the move to a major incident saves time money and lives. Sarcommnet, the rapidly growing interlinked radio repeater system from Sarcomm Limited, offers a secure digital network for search and rescue teams to use, enabling them to not only have local search site communication, but linked comms with other user groups on Sarcommnet across the country, allowing positioning while on the move should a task change or involve multi-site tasking. All Sarcommnet repeater sites (where possible) are fully independent from internet links, and benefit from having their own renewable power supplies which also cover the linking network to maintain a solid multipath backbone when the public power grid falls away. Midland Rover Owners Club 4x4 response team (part of the national 4x4 response network) have just joined Sarcomm Sarcommnet to assist best use of their resources while attending call-outs in their West Midlands area of responsibility, and are now interoperable with other Sarcommnet National users when attending incidents.

WWW.SARCOMM.CO.UK WWW.MROC4X4RESPONSE.CO.UK



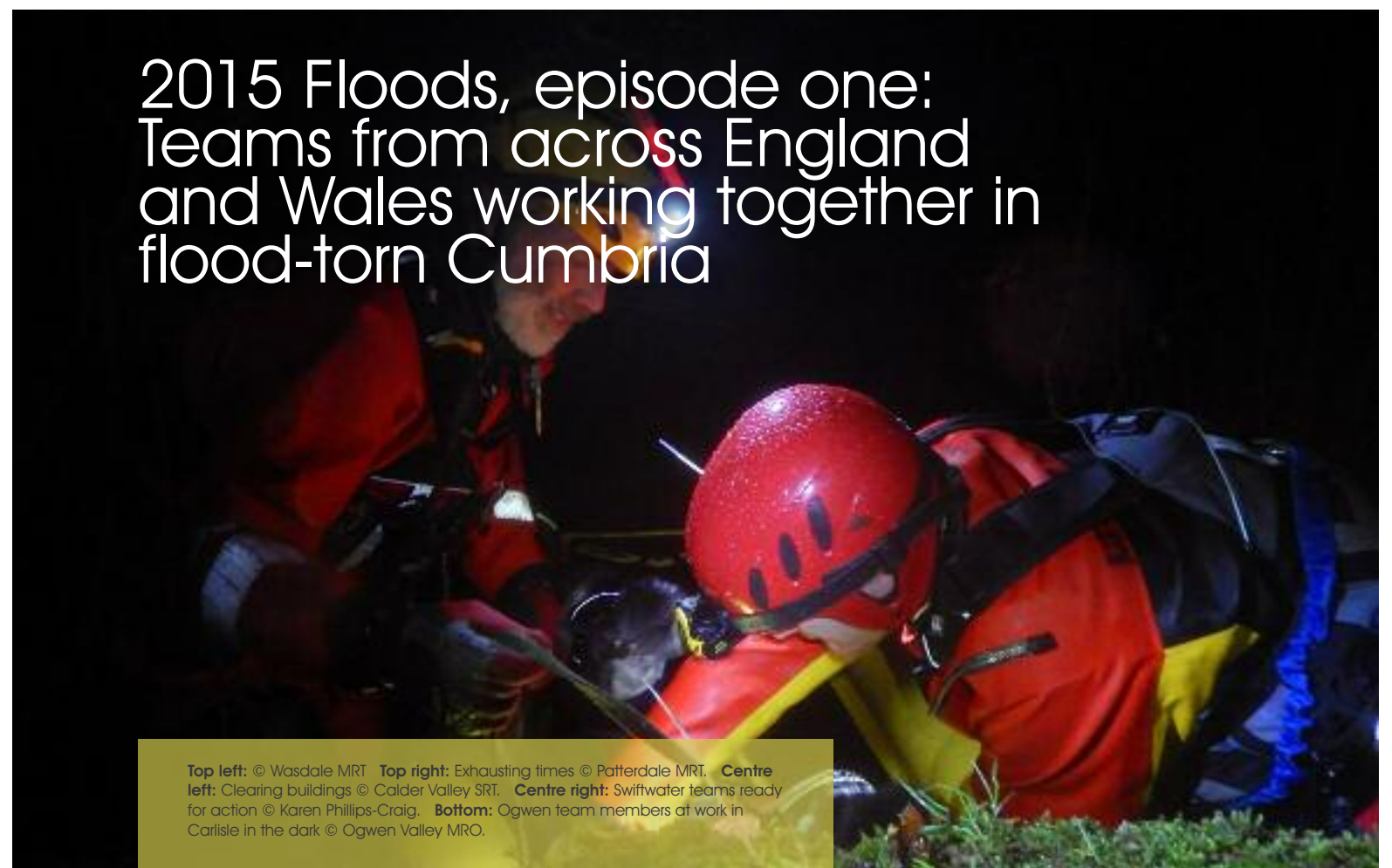


Top and centre left: Patterdale team at work and helping out with food deliveries © Ashley Cooper/globalwarmingimages.net. **Centre right:** Calder team vehicle and members © Karen Phillips-Craig. **Bottom left:** The aftermath of a double flooding in Glenridding © Patterdale MRT. **Bottom right:** Army, coastguard and mountain rescue teams at work together in Carlisle © Calder Valley SRT.



2015 Floods, episode one: Teams from across England and Wales working together in flood-torn Cumbria

Top left: © Wasdale MRT. **Top right:** Exhausting times © Patterdale MRT. **Centre left:** Clearing buildings © Calder Valley SRT. **Centre right:** Swiftwater teams ready for action © Karen Phillips-Craig. **Bottom:** Ogwen team members at work in Carlisle in the dark © Ogwen Valley MRO.



Top left: NEWSAR team members assemble © NEWSAR. **Top right:** Ogwen team members on duty in Carlisle © Karen Phillips-Craig. **Centre left:** Preparing for work © OVMRO. **Centre right:** Cockermouth Main Street, under water again © Cockermouth MRT. **Bottom left to right:** An unexpected peril on the streets © Penrith MRT. Wasdale team members ready for action © Wasdale MRT. The river runs through Braithwaite © Keswick MRT.



Main image: Mike Gullen, team leader Wasdale MRT, in Cockermouth Main Street. **Insert:** Swiftwater training comes into its own © Cockermouth MRT.

taking place for the first time. This was followed by 'Exercise Cloudburst' a regional table-top exercise based on a fictitious flood of the small town of Egremont and the surrounding area. It's possibly fair to say that afterwards many thought the scenario for Cloudburst was over the top. Finally, just three weeks previously the county went onto flood alert in mid-November expecting a significant rainfall event. The teams stood up but not a lot happened.

'The **LDSAMRA Major Incident Plan** runs to some 71 pages, followed by a series of appendices and action cards that detail how to respond to a major or 'unusual' incident. It is supported by individual team plans that specify local arrangements. However, at the core is a relatively simple principle. Those teams who are directly impacted by the incident and conducting rescues are designated 'Bronze' and manage operations in their patch, potentially as part of a multi-agency response. A team further away, not impacted by the event takes on the role of 'Silver' and is responsible for coordination and resourcing, but not directing rescues in any area. In this way an overview can be kept of where different teams are busiest and who might need some help. This information can also be fed into other agencies through forums such as the TCG (Tactical Coordination) and SCG (Strategic Coordination) meetings run by the main emergency services.

'Following the heavy rain in mid-November the lakes were full and ground charged. There was a particularly heavy downpour on the evening of 3 December when Cockermouth team did a number of rescues in support of the ambulance service due to localised flooding and, with an ominous forecast for the weekend, the scene was set. At the multi-agency teleconference on Friday 4 December, the Environment Agency explained there was a risk of significant flooding over the weekend but, with the experience three weeks earlier, little enthusiasm for another false alarm. Despite the scepticism, an LDSAMRA teleconference was held the night before and an outline plan made. The forecast predicted the north of the county would be worst affected and the Wasdale team took on the Silver role. It was anticipated that with a potentially large volume of incidents some modifications would need to be made to the normal SARCALL call-out system. In particular, it was proposed that any mountain-based calls would be handled in the usual way but for flooding-related incidents each team would run a single log onto which all incidents would be added and identified by

LAKE DISTRICT

STORM DESMOND WREAKS HAVOC ACROSS CUMBRIA AND NORTH LANCASHIRE

High-speed winds and heavy rain left a trail of destruction over the first weekend in December as flash flooding swept through parts of Cumbria, and police declared a 'major incident', the 'one in a hundred year' floods of 2009 still fresh in the memory. And, as Lake District teams set about working within their own communities, teams of swiftwater technicians from teams in North Wales and the Peak District made their way up the M6 to assist. It was truly a multi-team operation, led by those who live and work at the centre of the chaos.

Paul Cook, Wasdale MRT reports on the events of 5-7 December 2015 from the Lake District perspective: 'Many, if not all in mountain rescue will be familiar with the sad events in Cumbria over the weekend of 5-7 December with county-wide flooding. There are many accounts on team's websites and Facebook pages of the work at the sharp end rescuing people from Keswick, Appleby, Patterdale, Cockermouth, Kendal, Carlisle and many other places too numerous to mention. What may be less obvious is some of the organisation and planning that went on

behind the scenes to coordinate this response and how that played out in practice. This article tries to give some insight into that aspect of the rescue operation as well as an overview of the event itself from the MR perspective.

'Flooding in Cumbria, as in other parts of Britain, is unfortunately not a new phenomenon. Back in 2005, when Carlisle last flooded, most mountain rescuers watched as frustrated observers, unable to take part in a meaningful way. This gap was later recognised with mountain rescue being invited to play a bigger role in the Local Resilience Forum (LRF) along with other agencies. Moving forward to 2009, with flooding in Cockermouth, Keswick and elsewhere in the Lakes, local teams were heavily involved but without significant coordination between them.

'The following year the Derek Bird shootings in west Cumbria confirmed that mountain rescue teams had a role to play in major incidents in the county. With this in mind, and a renewed emphasis on regional cooperation following the Rescue 2020 review, further effort was put into preparing for this type of work. Swiftwater rescue instruction came in-house within the region and many of the teams started training with one another. In 2014, a number of steps forward were made with a regional Major Incident Plan drafted and a training course in Water and Flood Incident Management





Image © Keswick MRT.

CHEERS DEARS

Keswick team members share a tipple in flooded village of Braithwaite.

On 8 December, as flood recovery work continued, one of the team's last call-outs of the night was to check on flood-hit houses in Braithwaite. A visually impaired lady, adamant she wanted to stay, insisted that the lads all have a little whisky with her and, after checking she was warm and safe for the night, they duly obliged.

a reference number (that number was not specified, unfortunately). Experienced MR leaders would be embedded in the police control room to help ensure that incidents were quickly tasked onto the correct team.

'Saturday 5 December: Early on Saturday morning it was apparent that it had rained hard for a long time and was likely to do so for a lot longer. The morning teleconferences started to conclude that a major flood incident was likely and soon tasks were coming in, particularly around Keswick and Kendal. Around lunchtime, Keswick were dealing with a large number of jobs and support was sent from Cockermouth, Wasdale and Duddon teams. Kendal also started to get busy and a second Duddon team went over to support there. Langdale

Ambleside were tasked to help rescue people from a bus trapped by landslides on the A591. At this point it started to become apparent the incident would go on for a long time in many different places and if the MR effort was to keep pace further support was needed. Calls went out to the other regions to ask what help they might be able to offer.

'Later on Saturday evening, Cockermouth started to flood as well and the main street became a river once again. There was now activity in every MR base in Cumbria, except for Patterdale, which was flooded. Despite the west of Cumbria being relatively unaffected there was a six-strong team in Wasdale base helping to keep an overview of events elsewhere. Operations continued through the night around the county.

'Sunday 6 December: On Sunday the focus started to shift to Carlisle. Being a long way from the mountains means it takes some time for the water to build up but once it does a large inhabited area will flood in the east of the city. A key part of the response in Carlisle was getting established in the multi-agency Bronze group that had formed to coordinate the rescues. Once up and running it was possible to task teams in direct response to a request from the public rather than wandering up and down looking for customers. Jobs came from police to MR Bronze, then out to teams via Airwave radio.

'The out of county teams were important to the MR effort in Carlisle as many of the local teams were busy in their own areas. During the Sunday, groups from the Peak District, Calder Valley, Ogwen, NEWSAR, Kirkby Stephen, Penrith and Wasdale teams were all deployed in Carlisle. Bowland Pennine and CRO also supported in the south of the county.

'Away from Carlisle, operations were still ongoing in Cockermouth and Kendal and

new fronts started to open up. Penrith had a number of incidents in Eamont Bridge. Kirkby Stephen were called to help with evacuations in Appleby. Patterdale, now displaced from their base, supported this effort and also helped with the rescue of an Ullswater steamer that broke free from its moorings. Duddon and Furness team helped to move kidney dialysis patients in the south of the county.'

Perhaps inevitably there was also a mountain job at Scarth gap in Buttermere that was dealt with by the Keswick team.

'Operations continued through Sunday night but by now it was apparent that the pace had to slow, not just because the swiftwater teams were tired but it was also becoming difficult to man the various supporting roles in Bronze commands, at Police Control and Silver.

'Monday 7 December: Into Monday and there was still flooding in Carlisle and the east of the county but the water was starting to go down slowly elsewhere. The effort continued in Carlisle with mainly local teams from Duddon, Penrith and Wasdale along with a second team from Ogwen.

'It was known earlier in the weekend that things were difficult in Patterdale but the picture that started to emerge through the day was a community without power, water or telephone links that had been cut off for two days due to the collapse of Pooley Bridge. The Patterdale team started to get back into the village and with their limited communications provide a picture of the conditions down the valley.

'By the evening the flood waters had receded in most places and it was only in Patterdale that MR operations continued.

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Images © Langdale Ambleside MRT.



Langdale Ambleside team members had something of a roller-coaster ride during the rescue operation. Finally lifted out by helicopter they were forced to abandon their team vehicle to its fate behind flood debris north of Dunmail Raise. **Nick Owen** explains.

On Saturday afternoon, 5 December, the team was called to assist and evacuate 25 passengers from a coach that had broken down in a flood caused by a landslide on the A591 north of Dunmail Raise. Normally this would have been a Keswick job but they were preoccupied by flooding in Keswick, so LAMRT took it on.

'We drove over a small landslide to find the bus limping on through the flood northwards,' writes Nick Owen, team leader. 'The passengers were all automotive engineering students and they had temporarily rigged the bus with a snorkel made from a drink bottle. However, it ground to a halt when it encountered the next landslide. At this point we started ferrying the passengers to a reception centre in Grasmere.

'The final run to recover the driver was almost complete when another, large landslide blocked the road completely. The two team members plus the driver then started to try and make their way on foot, but deep mud, flooding and darkness made progress difficult. A team of SRTs was dispatched

to help them and assistance was requested from a Coastguard helicopter. They were picked up and flown to Walney, because the aircraft needed to refuel and was also required to evac from a flooded property. They were dropped off there and collected by police, who took them to Barrow police station. They were given police custody clothes (white boxers, grey sweatshirt and pants, then we arranged a generic hotel apparently frequented by Lenny Henry until we could get through the flooding to retrieve them next day.'

The vehicle was finally recovered on 13 December, when the army and Cumbria County Council managed to dig their way past it, allowing it to be driven out to the north. And, yes, at the time of writing, it seemed to be none the worse for its ordeal. It started straight away and was driven back the long way round. The images show team members on the second of two trips to recover kit, the state of the road, and the vehicle being collected after the army and CCC dug through and past.

Postscript from Nick, on 14 December: 'I've just spoken to one of the team members involved and looked through the dashcam footage... it must have been pretty scary! Two vehicles each did three trips through increasingly deep water, driving over growing landslide debris and increasing darkness. To maximise room in the vehicles two other team members waited with the remaining passengers in the coach. They saw water rise and fall, probably as landslides slipped into it and then drained slightly. If either driver had stalled at any point they would have been in deep trouble. The hillside was awash, there was a curtain of water dropping on to the road. The flood water is full of logs. In one place the road surface blistered up and was floating. Either vehicle and its passengers could have been lost when the road collapsed or if they'd been hit by any of the landslides. They did well.' (Something of an understatement.)



Just another day in the office...



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Team members on duty in the suburbs of Carlisle © Karen Phillips-Craig.

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'Review: Proper debriefs will take place over the coming weeks and inevitably areas for improvement will be identified, incident plans rewritten — available to share once produced — but a number of observations can be made now.

'SARCALL proved to be an invaluable tool, both in terms of tasking, logs and calling teams within or outside the region. However, it was often unclear whether new tasks should be going onto the local or Silver logs. On a similar subject, maintaining an auditable log, demonstrating how each task was closed, proved to be a big issue for all the services. The MR logs on SARCALL were generally traceable but this is an area for improvement in the future.

'Running a Silver or Bronze area turned out to be a team effort. There were normally six people busy in the Wasdale base on admin tasks, not least of which was running teleconferences with a regular schedule of SCG, TCG and local LDSAMRA dial-ins through each day. Running the Bronze in collaboration with agency partners was also important, particularly so in Carlisle where MR has less of a presence and we were on the home turf of the full time services.

'If calling teams from outside the county it will probably be better in future to have a dedicated contact point that stays with the role throughout. In the end this was handed over part way through the call-out process, potentially losing continuity.

'Swiftwater rescue is the 'glamour' end of this type of incident but this time a need for trained people to manage the backroom roles in the bases was also evident. The preparation of having run Cloudburst a year earlier was useful and a similar training event will most likely be run again.

'However, overall it appears that the planning and build-up made in the Lakes has proven itself capable of responding to this type of event. Hopefully it will not be repeated soon.'

COCKERMOUTH AND KESWICK UNDER WATER AGAIN JUST SIX YEARS ON FROM 2009

Keswick team members had their work cut out both in the town and in the Braithwaite and Uldale areas. Over a twenty-two-hour period, they dealt with 26 incidents, rescuing people from flooded homes, checking on vulnerable folk, and transporting people to the evacuation centre at St Herbert's School. Conditions were challenging to say the least — the river overtopped the glass panels at High Hill, which then became a raging torrent. Penrith Road had to be closed, and traffic turned around, and bridges were closed as some were in danger of collapse. Two were actually carried away and a third badly damaged.

Braithwaite became the centre of some epic efforts to evacuate families and elderly residents, after one of the bridges collapsed, and water tore down the road into the village centre. Three swiftwater teams fought their

CHRISTMAS WEEKEND

AND THEN, LATER IN DECEMBER...

Barely refreshed by a Christmas break with their families, team members were out again in the wild and wet on Boxing Day. With parts of Cumbria still under threat of flooding (or actually flooding), members of the Lakes teams were on standby on home ground but a number of groups also went to assist in flood rescue operations outside the county.

The twenty-six members from eight of the twelve Lake District teams were once again working alongside their colleagues from across England and Wales. Silver Command went live on Christmas Day, in anticipation of Storm Eva, hot on the heels of her brother Desmond. Members of the Ogwen and NEWSAR teams, from North Wales, and members of Peaks teams, all of whom had been part of the rescue operation in Cumbria only a fortnight earlier, were called to York after the Foss Barrier pumping station became overwhelmed. Swiftwater technicians from Swaledale, Cleveland and Scarborough and Ryedale teams were also deployed.

Peak District teams were initially tasked to assist the Oldham team, following flooding around the Delph and Saddleworth areas but were quickly retasked to the Lower Broughton Road area of Salford — not an area you would normally associate with either 'mountain' or 'swiftwater' rescue — to rescue people from their flooded homes. Bolton, Rossendale and Pendle and Cheshire Search and Rescue were also out in force — and Rossendale and Bowland Pennine team members were also dealing with flooding within their own areas in Lancashire. Calder Valley members, meanwhile, were busy assisting those affected by the severe flooding along the River Calder and surrounding areas. In North Wales, the Ogwen team forward-deployed two vehicles — one to Bethesda and one to the Conwy Valley — to support flood operations. Their tasks included the recce of access routes into Trefriw for Welsh Ambulance Service access as the A5106 became impassable in places, and assisting the ambulance service generally where required.

More news and images from York on page 26.



This image: Team members check on householder in York. Inset: MacDonalds at Clitheroe to the rescue, providing free food and drink for rescuers in Whalley, Lancashire. Images © Keswick MRT. Left: Bolton team members at work in Broughton, Salford © Bolton MRT.

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MID PENNINE



NOT YOUR AVERAGE 'MINI ADVENTURE'

Top: The mini under water with its lights still working. Above: The same car after flooding subsided. Images © Bowland Pennine MRT.

One lucky lady probably owes her life to the instincts of a Bowland Pennine team member and the prompt actions of him and his three team mates, in the wake of the flooding near Lancaster.

'Our initial call,' says Rob Gilder, 'was just after 6.00pm, to assist with some ladies who had been in the water but were now out, with reported injuries. The ladies were at the Greyhound pub in Halton, so we headed in that direction but were stood down en route.

'As we were nearly in Caton, we continued to look at the bridges across the Lune at Caton as I had received reports (from my wife!) that they were blocked. We checked the Crook o' Lune road first where we found very high water so turned round and, on a whim, I proposed we go to Denny Beck Lane to check the water height there also.

'We drove past the sign and cones with a view to stopping before the water and turning around but, as we reached the edge of the water we saw a car's tail lights driving in the water and then beginning to float away from us, carried on the current. A quick exit from the vehicle, grabbing a buoyancy aid on the way, and three of us entered the water. I made contact with the car driver who was screaming for help very loudly as her car was filling up and reassured her we were coming to help.

'The car came up against a wall (although we didn't know that at the time as it was under water) and stopped in position. I helped the lady into a spare buoyancy aid and then out of the car and we floated her to dry land and the shelter of one of the houses on the street. The car sank shortly after we got her out, just six inches still visible above the water.

'A gentleman standing in his garage door agreed to give her shelter for the night and we got his details whilst the casualty was ushered into the house by the man's wife, to the comfort of towels, sleeping bags and a warm shower. The three of us then waded back through the chest-deep water to Julian who then cancelled Lancashire FRS who were by then en route to assist. Then it was back to Smelt Mill for shower and dinner!'

SAFEQUIP



Safequip are the exclusive distributors for SIT Inflatables for the Emergency Rescue Services

Safequip would like to take this opportunity in congratulating Mountain Rescue Teams for their sterling flood response work in the recent devastating floods. The unprecedented flooding over the past few weeks has certainly tested flood resilience capabilities to the limit during the festive period.

Without the level of support provided by volunteer organisations, many more lives could have been put at risk. As well as being manufacturers of water rescue PPE, Safequip are also the exclusive distributor for SIT inflatables to the emergency rescue services, which means we can supply a total package of premium water rescue equipment and PPE.

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way into various difficult locations, with two team members hitching a ride in a tractor digger's bucket to access one elderly resident's property. The return journey to Keswick afterwards was hindered by landslides, uprooted trees and swiftly flowing water.

A further eleven incidents were dealt with by swiftwater teams from Cockermouth, Duddon and Wasdale who went to assist the team. The last incident of the day was a trip to Uldale to evacuate a medical case, and transfer her to an ambulance bound for Cumberland Infirmary.

As for Cockermouth, over three days and two nights, with very little sleep for team members, the residents of many flooded properties in Cockermouth were evacuated by the team and other rescue organisations. A total of 600+ properties were flooded, including care homes and sheltered accommodation. Team members visited these and the homes of other vulnerable residents to check on residents and evacuate them in the case of medical emergencies. On one occasion, due to the speed of the flood waters, a Royal Navy Sea King from 177 Gannett winched an elderly lady from her home to safety and medical care.

'This is the second time many homes and businesses have been affected,' says team chairman Steve Brailey. 'It's been heart breaking to see the results of the flooding on Cockermouth, including the home of one team member's family. Having said that, the town's resilience and spirit has been



Floods minister Rory Stewart MP chats to Patterdale team members in the wake of the Glenridding floods.

© Ashley Cooper/globalwarmingimages.net.

inspiring and, after a relatively short period, Cockermouth is very much open for business!

'We must also thank Maryport Inshore Lifeboat crew, and MR teams from around the county — and the country — for their assistance during the floods. It was a real team effort.'

PEAK DISTRICT



NEW KIT PROVES HANDY SOONER THAN ANTICIPATED

It didn't take long for Derby team members to get a chance to use the new Gill Pro Drysuits, donated to them following their efforts in Cumbria. The Nottingham-based manufacturer of sailing clothing donated £5000-worth of kit to replace their existing secondhand clothing. Members of the team's water section were amongst those called to Greater Manchester to assist with the evacuation of residents in Rochdale and then Broughton in Salford.

Image © Derby MRT.

FLOODING IN KENDAL

In Kendal, team members rescued a mother and two young children from their landing window in Sandylands and the occupants of a car immobilised under the railway bridge on Burneside Road. On the Sunday, alongside Bay Search and Rescue, they completed a tricky extrication of a couple of elderly people trapped in their house (at the time in the River Bela in Milnthorpe), and also assisted in the attempted rescue of the gentleman who tragically became trapped in a culvert at Staveley.

'We'd like to thank the other voluntary organisations who helped the response in Kendal,' says Dave Hughes, team chairman. 'In particular, Bay Search and Rescue who provided invaluable support with their specialised Hagglund vehicles, Duddon and Furness MRT (before they were sent elsewhere in the county), Bowland Pennine MRT, who gave up their Christmas dinner to help in Cumbria, the RNLI, who helped with the evacuation of a property in the Lyth Valley before heading to Cockermouth, the International Rescue Corps team from Scotland and the blood service volunteers from Glasgow, who helped the police with welfare checks.

'We'd also like to thank the people and businesses of Kendal and Milnthorpe who have supported us through the weekend with flasks of soup, sandwiches, chips and moral support!'

WATER SUPPORT FOR CUMBRIA FROM OUTSIDE THE COUNTY

Alan Howarth, of Kinder MRT, was one of those who travelled from the Peak District to give help where needed. He wrote the following on his return from Cumbria:

'Kinder team sent two SRTs, Darren and myself in one of our team Land Rovers. We


were joined by SRTs from Calder Valley, Ogwen Valley and NEWSAR.

'We were initially joined up with Penrith MRT and sent to Appleby to investigate a report of people trapped in a supermarket, cut off in the flooding. We headed down to the main street. The building was on the other side of this and the routes in from all other sides were impassable. We attempted to enter the main street from a side street, where the water was chest deep, but reasonably still. Conditions were poor, it was dark, all street lighting had failed, it was raining hard and very windy.

'A Penrith team SRT clipped in to a rope and edged out towards the main flow. As we approached the main street, it soon became clear that the depth and speed of the water on the street was life threatening. We couldn't get any communications with the building, but it was above the water level and not in any danger of being over-run. Water was now flowing over the top of the bridge on the main river, so if any kind of rescue were to go wrong, there would be no chance of surviving in the river/main street. We made a judgement call that anyone in that building would be safer to remain in there, rather than risk a rescue, just so they could get home earlier. Inconvenience was preferable to the risk of drowning! The only route out would be by helicopter and although there were several flying around, they were all dealing with life-threatening tasks.

'We checked the rest of the buildings on our side of the street before a strong smell of gas forced us to back away and stand down. Then we regrouped at Appleby Grammar School, where members of the local community kept us stocked with food or hot drinks before we were redeployed to

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Above: Six of the team members who attended the inaugural meeting in October 1980, all still active within the team today: left to right, John Houghton, Crispin Myerscough, Bob Scoltock, Pete Taylor, Keith Gillies and Phil Lund © BPMRT.

BLACK TIE DO FOR BOWLAND TEAM

In October, the team held a slightly less-soggy celebration than they later achieved at Christmas. The dinner marked 35 years since the amalgamation of the South Ribble Fell and Search Team and the Northern Rescue Organisation, both formed in 1962.



Above: The 'Marie Celeste' of Christmas dinners © BPMRT.

Carlisle. We arrived around 11.00pm to an area in the city centre which had been closed off due to flooding. Two cars were parked inside the area which had begun to flood. There were several residential streets in this area, so we sent a couple of teams to talk to the residents and see if they needed to be evacuated.

Several decided to leave their properties, so these people were escorted out, as the water levels rapidly rose. The two stranded cars disappeared under the flood water and we quickly had to relocate our own vehicles.

'In the early hours, some of our group were called to a couple of men walking home from their Saturday night out, who'd managed to become stranded on high ground. They were walked out in waist deep water and handed over to the police to dry off, very cold and wet. We also had an emergency call to a lady who was neck deep in water in a park. Fortunately, her husband managed to rescue her while we were en route, as this could easily have gone very wrong.

'After an hour and a half of sleep on the floor of a local school, we were tasked with helping with a flood in a large residential area. For me this involved wading down the streets and talking with people through their top floor windows to see if they wanted to stay or be removed. The ground floors were completely flooded and the water had risen so quickly many of their cars were also trapped.

'My job was to go round the streets and investigate the buildings. Where people wanted to come out, we would arrange for an evacuation. Many had decided to sit it out but, with the water levels much higher than previous years, several wanted to come out. This involved us getting either a boat or rescue raft to ferry them back to dry land.

'The water was contaminated with refuse, car fuel from all the stranded vehicles and contents of all the drains in the area. A sign half way up a wall, only inches above the water level, stated that 'Vehicles parked here at owner's risk'.

'My over-riding memory of the day was how well the people in the flooded houses handled it. They'd pretty much lost everything, but were still chatting to their neighbours as they leaned out of their top floor windows. Even shouting us over to make sure we'd checked on their elderly neighbour three doors down, as they hadn't heard from her. They were going to get through this together with whatever they had left. Water levels were still rising throughout the day, so by mid-afternoon, I could no longer touch the ground in many of the places we'd been rescuing people earlier. Once we started to float, it means a static raft can no longer be used, so it was time for us to stand down. Fortunately, the RNLI and fire service had managed to find some powered boats, so we handed over to them to finish.

SHEEP RESCUE IN NORTH WALES

Fresh from their weekend in Carlisle, assisting the rescue effort, Ogwen team members barely had time to dry their kit before they were called to a local flood incident, to help rescue an entire flock of sheep in the Conwy Valley.

Farmer Paul Williams had watched in horror as 170 pedigree Welsh ewes were swept away in a torrent of water when a section of embankment gave way near Llanrwst. Sixty-six sheep drowned or died from exhaustion despite frantic rescue efforts by himself and a local vet, who both swam across water-filled fields to reach the traumatised animals.

The ewes were being kept on a field shielded by a 200-year-old embankment built to safeguard the town from flooding. Most were probably in-lamb.

'I usually put them in a shed which has a raised floor, where they are safe, said Paul Williams, 'but on this occasion the floodwater had backed up to the gate and I couldn't get them to the shed.'

Instead, he moved them to high ground within the undulating field and, at 2.30am, returned home. The next morning he was

back at 10.00am, by which time the sheep were up to their ankles in water. Next thing he knew, a torrent of water was racing through the field, sweeping the sheep off their feet. All he could do was watch it happen.

At 5.15pm, the Ogwen Valley team was called to assist. Within minutes, two members were on site, three more arriving later (much of their kit was still hanging up to dry). About an hour later, the team's Land Rover arrived with an inflatable dinghy and members waded in the water.

Six sheep still needed rescuing. Only three could be ferried across at a time, and one ewe died en route. The rest were taken to Wern Vets but two were in such a bad state they did not survive the night.

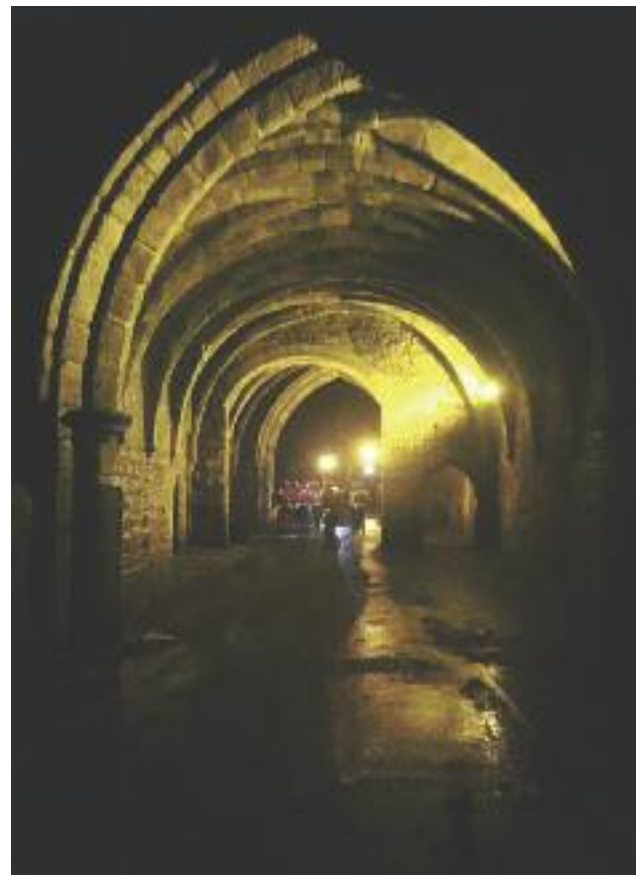
'The farmers, the vets, the three RSPCA staff and five Ogwen members worked well together in high risk conditions,' said Chris Lloyd. Sadly, when Paul returned to survey the damage and count the bodies, some 65 carcasses were recovered: the 66th was found by Paul's wife, a mile down river at Trefriw. As farm insurers won't cover livestock lost to floodwater, Paul was left counting the cost. The ewes were worth £75 each and carcass disposal comes in at £18 per body. Despite this, but he remains sanguine about this 'act of God' adding that 'it may take us a while, but we will come back from this'.

CHRISTMAS KNEES-UP CANCELLED

Mid Pennine teams were also kept busy during the floods in early December. Members of Rossendale and Pendle were drafted in to assist with flooding in Lancaster because Bowland Pennine, who usually cover this area, had already been drafted in to help with the flooding in Cumbria.

As the flooding developed, the ambulances were struggling to reach some

Top left, right and centre (top) right: Images of the rescue effort in York
© Rob Grange/ Keswick MRT. Centre left: Image © Scarborough & Ryedale MRT.
Centre right (bottom): David Cameron meets members of mountain rescue in York
© Scarborough & Ryedale MRT. Bottom left: Image © Edale MRT.
Bottom centre and right: Images © Langdale Ambleside in York © Paul Burke.



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patients. The calls increased as the electricity failed, resulting in more falls and injuries. The team worked through until 10.00am, carrying out missions that included attending and transporting patients to hospitals, taking medical professionals to patients, emergency and routine patient transfers and taking vital medical supplies to patients who administer their own medicine at home, many of whom had no electricity.

Meanwhile, Bowland Pennine team members abandoned a much anticipated Christmas get-together for the flood effort. Team leader Kev Camplin explained that the team always have their annual social the first weekend in December, with the dinner on the Saturday evening. 'Unfortunately, we had crews out in Lancashire and Cumbria assisting with the operation and supporting the ambulance service where they couldn't reach because of the flood water.

'We were losing people throughout the day as they went to help, which meant the turn out for our dinner was only 12-16 instead of 30-35!'

'The dinner became a rolling buffet,' adds Tim Cox, team chairman, 'as team members returned from various deployments.'

MID PENNINE

CALDER VALLEY FIFTY YEARS

On 29 November, 1965, Robert Akrigg, a 55-year-old reservoir keeper set out in treacherous conditions to check the water gauges from the

2015 Floods: Multi-team rescue effort continues in York



This page: PenMacra team members at work in York. Images © Charlotte Graham Photography. www.charlottegraham-photography.com

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Diary of an Editor

Luddite at Large *Loosely translated as:* The Things I Do For Mountain Rescue



Flooding in: It's thanks from them and an apology from me...

After the flooding in Cumbria, regional chairman Richard Warren wrote to teams expressing his sincere thanks to those who had juggled supporting their teams and communities with the needs of their own families in the run-up to Christmas. 'Cumbria owes you,' he said, 'and if the time comes when you need our support from the Lakes, you know it is there.' Famous last words!

Three weeks later, as some Cumbrian communities braced themselves for a further round of floods, the waters also rose across North Wales, Lancashire, Salford, West Yorkshire and York. And once again teams from across England and Wales — including a 52-strong contingent from the PenMacra teams — joined forces to help the stricken communities. Once again, Land Rovers emblazoned with names and logos more usually associated with their local habitats, were out and about hundreds of miles from their home bases, in the name of 'mountain rescue'.

On the Sunday after Christmas, it was the turn of Ian Hugill, who acted as Bronze water incident manager in the York floods, to express his thanks to 'the seventeen rescue teams from all over England and Wales and the hundred or so mountain rescue people who came to help Scarborough and Ryedale MRT with the floods in the centre of York, many of them deploying straight from call-outs elsewhere in the country.

'Did we do everything right? Probably not. Was it always textbook? Probably not. However, we came together to safely clear hundreds of houses and deserted cars, evacuated hundreds of people, families, dogs, parrots and assorted pets to recovery centres, delivered nurses and medications to house-bound patients and completed numerous other tasks. These came thick and fast throughout the day and due to the professionalism, dedication, unstinting effort and good humour of the volunteer rescue community we dealt with everything thrown at us and, importantly, people were delivered to safety in a timely and efficient manner. We could ask no more.'

He reckons that the MREW Media Skills training proved invaluable for the three radio and two press interviews he had managed to squeeze in, adding that

'I clearly have a face for radio as the camera crews avoided my best efforts to get in front of them!'

The next day, however, the Prime Minister's visit provided just the opportunity and Ian made it onto our TV screens. 'I got a lead from Silver it might be good to be in the centre of York for a potential visitor later in the morning so, uninvited, I chanced my arm to raise the MR profile on national TV. What was intended to be a well-choreographed photo opportunity for some guy called David to thank the Army, ended up as a relaxed chat with a couple of our teams between rescues. To say his press officer was confused was an understatement.'

And how much more authentic to have a real-live rescuer still damp and a bit frayed round the edges from doing the actual job, speaking from the heart, not a given script? Fantastic work Ian!

Doubtless we will undertake an analysis of our media activity. In early December, national press releases were largely ignored in favour of reports from media people at the scene so Ian's efforts were a huge step forward! Despite our best efforts, the press do tend to focus on what is happening on the ground — or work to their own agenda.

An illustration of just how hard it is to push your PR foot in that door came when Radio Two's Jeremy Vine ran an item about the floods. Up popped a very eloquent chap, grateful to have been rescued by 'a mountain rescue boat'. Vine queried that mountain rescue had boats, and was quickly put right by the chap in question, who had nothing but praise for MR. Andy Simpson, MREW press officer, called in to the programme, to elaborate further on the mountain rescue story, only to be told no thank you, we've moved onto the political story now — which was doubtless pretty high on the agenda from the start.

That said, from a PR point of view, the month of December pushed 'mountain rescue' literally and metaphorically into the homes of the nation far more effectively and assiduously than we could ever have done through planned campaigns. It might not always have seemed that way to those on the ground, concerned that their team didn't get a name check in a particular report, but the

collective effect was phenomenal. And it has to be said, again: the general public only sees 'mountain rescue'. It matters little to the family rescued in Carlisle or York or Salford, that their saviours hail from North Wales or the Peak District, or that someone has driven three hundred miles to join the rescue effort. Away from attending the local needs of climbers and walkers, we're all just 'mountain rescue'. And, throughout the floods, we repeatedly achieved the front pages of the national press and broadcast media.

One thing that quickly became clear was that there would be more images of this than I ever see of mountain rescues! Maybe because it's a more accessible photo opportunity than some gnarly old rescue from a windswept crag, or maybe simply because it resonates more with everyday life, strikes at all our hearts? We're fortunate in MR that we have a number of professional photographers who happily allow us to use their images free of charge, so a huge thank you to them, and all the non-professionals who have provided the many images in this issue. Many of the images in the press were licensed to the Press Association, Getty or Reuters and come at a price, even to the charities appearing in them.

As for me, all I had to do was sit at home in a warm, dry house and sift through a burgeoning pile of images and news stories but what a mammoth task that proved to be! Which brings me back, finally, to that apology. Having just about completed the 'flood section' of the artwork, so began the next round of devastation. I've rejigged and edited, even added extra pages, to accommodate as much as possible but inevitably there will be some story or someone, somewhere who I miss, or which comes in once it's all put to bed. And this issue only really covers Desmond and Eva. Frank will have to wait! So please accept my apologies in advance for any perceived slight!

My intention throughout was to create an edition which would keep working for us long after the flood water goes down. That's when the real PR work starts. Use this magazine as a marketing tool — that's what it's here for (amongst other things). And stay safe!

Judy W xx

Gorple Cottages near Hebden Bridge, but never returned.

Water Board employees accompanied by the police, local farmers, estate keepers were joined by mountain and fell rescue team members from across the north of England to begin the search in earnest.

By the third day, more than 300 people were searching the moors and stayed from first light until dark without success. With the passing of days, the hope of finding Akrigg alive diminished, but the searchers never gave up. Throughout, the wintery conditions were relentless with biting cold wind, causing an icy 'smoke' over the whole moors.

Tragically, it was only when the heavy snows of that winter receded (some 65 days), that Akrigg's body was discovered.

Early in 1966, an inaugural meeting was held at Hebden Bridge council offices. Over 30 people attended. Calder Valley Moorland Rescue Association was formed and sought the help of Hebden Bridge St John's Ambulance to assist with first aid training.

On Saturday 6 February, Calder Valley Search and Rescue Team will hold a celebration service at St Michael's Church, Mytholmroyd, to mark the team's 50th Anniversary. They hope that friends, extended family and supporters, will help them mark this monumental year.

RESCUE TEAM MEMBERS TAKE UP THE 'SPINE CHALLENGE' TO RAISE FUNDS FOR WATER RESCUE

Intrepid members of mountain rescue teams whose areas touch on the Pennine Way were set to compete in the first ever Spine MRT Challenge® in January. Outdoor clothing company Montane have been



Above: Calder Valley team members attend 'a mountain bike' scenario in one of the stunning images taken for their 2015 Calendar © CVSRT/Anne Farnell.

running their winter Spine Challenge events for four years but this year they are hosting a special edition, in association with Mountain Rescue England and Wales and Border SAR (BSARU). Individuals will be raising funds for their respective teams, in one of the toughest winter races you can find. According to the Challenge website, 'the rugged and very technical nature of this race is mentally taxing, as you have to constantly be aware of foot placement in icy conditions, weather systems, navigation, available daylight and self-management.'

Previous editions of the race have seen competitors facing 'storm-force winds, snow, extreme ice, bogs, fog, hail, mud and almost anything else you can think of!' so good luck to all who enter there! We look forward to hearing the results.

PEAK DISTRICT

'MISTER FROSTBITE' JOINS THE BUXTON TEAM

Internationally renowned mountaineer, Nigel Vardy, has joined the team as an associate member to help with training, fundraising and operational support. The mountaineer, motivational speaker, author and record-breaking climber describes himself as 'Six foot two inch, blue-eyed and scarred'. He has climbed around the world but, in 1999, he suffered severe frostbite on

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^{*}Official test results from the industry standard IDFB 18A Shake Test

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Above: Nigel Vardy, newly-fledged Buxton team member © Buxton MRT.

Mount McKinley in Alaska which resulted in the amputation of his fingers, toes and nose. 'Those days, watching parts of my body die, were some of the hardest of my life,' he says. 'Those tiny things suddenly became so important, especially at the prospect of losing them.' His niece now describes her uncle as having 'feet like a teddy bear'.

After three years recovering from his injuries, Nigel returned to high altitude to climb Island Peak in Nepal. Since then, he has appeared on TV and radio and written extensively about his experiences. When asked what was his first memorable experience in the mountains, he described a time when the Snowdon Railway came off its rails. 'I think it was 1976. The toothed cog failed on the way up. The train had to apply the emergency brake and evacuate everyone whilst repairs were made. I should

team news

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have known I'd be a disaster from then on!' He now lives in Derbyshire and has been a supporter of mountain rescue since his rescue from Mount McKinley and wanted to get more closely involved for some time.

Roger Bennett said, 'Nigel will be a great asset. I know he has a lot to offer both in raising the team's profile and practical advice. I'm sure he'll be a bonus to all the Peak District teams and probably further afield'.

PENMACRA

OFFICIAL NEW BASE OPENING FOR
DARTMOOR PLYMOUTH

In September, Dartmoor SRT Plymouth held an official opening of its new rescue centre, less than a mile from the national park boundary. The culmination of two years of fundraising, it meant a welcome move from a dilapidated concrete and wooden double garage to a new unit on an industrial

estate on the outskirts of Plymouth, as the old 'garage' was deemed not fit for purpose due to water ingress and vermin. Team members are now embarking on a major fundraising campaign to kit out the building.

The base was official opened by the Deputy Lieutenant of Devon, Richard Baily and attended by Peter Bell (MREW president), Mike France (chairman) and Dave Close (secretary), as well as others who had helped with fundraising.

In autumn, the team received a significant donation from the Big Lottery Fund to assist in completing the works for the centre. In particular, the funds have been designated to complete the community engagement and team training area above and below the mezzanine level created earlier. The total awarded was £9,957 — a very generous donation which will go a long way to helping transform the centre into the community resource they always imagined it would finally become. The centre has already been used for both team and regional training.

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**British
Antarctic Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL

Jul•Aug•Sept•2015

Editor's note: Please note that numbers quoted may not be precise for any given period. Stats should be returned to the Statistics Officer, not to the Editor.

incidents

Lake District

Cockermouth	2
Coniston	15
Duddon and Furness	8
Kendal	11
Keswick	2
Kirkby Stephen	8
Langdale Ambleside	36
Patterdale	21
Penrith	6
Wasdale	25
(Last quarter: 152)	134

Mid-Pennine

Bolton	10
Calder Valley	13
Rosendale & Pendle	2
(Last quarter: 42)	25

North East

Scarborough & Ryedale	19
(Last quarter: 20)	19
North Wales	
Aberdyfi	12
Aberglaslyn	19
Llanberis	46
North East Wales	11
Ogwen Valley	40
South Snowdonia	2
(Last quarter: 92)	130

Peak District

Buxton	21
Derby	7
Edale	6
Glossop	13

Kinder	22
Oldham	12
Woodhead	9
(Last quarter: 73)	90
Peninsula	
Cornwall	10
Dartmoor Ashburton	1
Dartmoor Okehampton	5
Dartmoor Tavistock	14
(Last quarter: 15)	30

South Wales

Brecon	20
Central Beacons	8
Longtown	11
Western Beacons	5
(Last quarter: 18)	44

Yorkshire Dales

CRO	1
Upper Wharfedale	19
(Last quarter: 39)	20

Search Dogs

England	8
Wales	4
South Wales	1
(Last quarter: 21)	13

RAF

Leeming	1
Valley	8
(Last quarter: 5)	9

Total	514
(Last quarter: 473)	

NOTES FROM THE MEDICAL SEMINAR

Saturday 14 November 2015

Summary compiled by LES GORDON



Management of trauma on the mountains

1: Head injury

Dr Tim Hooper Medical Officer Keswick MRT & GNAA

Any injury is usually accompanied by some swelling. In most areas of the body, the swelling is well tolerated. However, the brain is inside a bony box and this severely limits how much the brain can swell following injury before excessive pressure builds up and impairs brain function. In addition, any bleeding inside the skull will occupy space and press on the brain.

To prevent the build-up of pressure on the brain, the body initially compensates by squeezing out some cerebrospinal fluid from inside the skull. However, if there is any more volume increase, either due to bleeding or swelling of injured brain, the compensatory mechanisms will fail and brain pressure will rise rapidly leading to a further deterioration of brain function. This affects control of consciousness, breathing and blood pressure.

Primary brain injury occurs due to the initial trauma. Secondary brain injury is subsequent damage that arises from the disturbance of brain function caused by the trauma, such as altered breathing and blood pressure. It is a big factor in the brain damage and death that result from brain injury. In MR, we cannot affect the primary injury. Our job is to minimise the development of secondary injury until the casualty reaches expert help.

The factors which contribute to the secondary injury are:

- Abnormal carbon dioxide levels (too high or too low)
- Hypoxia
- Low blood pressure
- Hyperthermia
- Abnormal blood glucose.

High carbon dioxide (CO₂) increases blood flow to the brain and raises the pressure. Conversely, if the CO₂ level is too low, this reduces blood flow to vital areas. Hyperthermia (high temperature) leads to an increased brain metabolic rate. This increases the injured brain's requirements for oxygen and blood at a time when it can't get them. Abnormal blood glucose is associated with a worse outcome. We can't treat a high glucose but we can treat a low one.

A good ABCD approach enables you to manage these things effectively:

- **A:** For the purposes of the casualty carer, the main determinant of CO₂ levels in a spontaneously breathing patient is how well a clear airway maintained. A major study published in 2007 on trauma in the UK highlighted (among other things) problems with airway management as being an issue. Airway obstruction is a particular worry in head injury.
- **B:** High-flow oxygen is appropriate in the early stages of the rescue. If it is possible to measure oxygen saturation, the flow can be reduced to maintain saturations of 95% or above.
- **C:** Controlling external bleeding will help to maintain blood pressure eg. splinting pelvis and long bones.
- **D:** Remember to document pupil size as

well as GCS or AVPU.

- **E:** There may be a theoretical advantage to the injured brain of being cold. However, we are treating trauma where cold worsens outcomes. Current advice is to reduce heat losses and strive to keep body temperature normal.

Casualties with head injury are at higher risk of a cervical spine injury.

Cervical immobilisation is covered in a separate presentation (next item). It is possible that in the future, the advice may be that unconscious patients still need to be immobilised, but this may not involve a cervical collar. Hard collars are not without risk. For example, they can cause an increase in brain pressure.

Finally, the other thing that might help is the administration of tranexamic acid to casualties with major bleeding.

This cannot be given by ordinary MR team members but many doctors now carry it.

Summary

- Brain injury is a serious problem
- The key to management on the hills is the prevention of secondary brain injury
- This is achieved by meticulous attention to basics, particularly airway management.

2: Spinal immobilisation in mountain rescue

Mike Greene Medical Officer MREW & Wasdale MRT

Mike asked some challenging questions and presented recent evidence that will reshape the way we manage spinal injury on the hills. His presentation was built around a number of questions and statements summarised with key messages.

When treating a MR casualty, what is the evidence to support your choice of spinal immobilisation?

It is essential that we choose treatments where the benefit outweighs the side effects. The traditional beliefs are:

- Spinal Immobilisation prevents all

secondary cord injury

- Spinal immobilisation has no side effects
- A cervical collar is always required for immobilisation of spinal injury
- For a population of mountain casualties the benefit of immobilisation is always greater than potential harm.

How common is spinal injury in mountain rescue?

Of four studies published, three suggest an incidence of 5-8% of all MR cases. 8% of cases in the Bangor database, the largest

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UK study of MR casualties, had spinal injury but only 0.1% (ie. 1 in 1000) of survivors actually had a spinal cord injury. An alpine study that looked specifically at falls suggested an incidence of 22% of falls, 81% of which were thoracic and lumbar spine.

How many patients with spinal cord injury (SCI) deteriorate after injury?

5% of all SCI will have some deterioration even with current immobilisation ie. immobilisation does not prevent a problem arising. But importantly, a major review published in 2009 showed that there is no evidence that immobilisation prevents deterioration.

What is the cause of secondary spinal cord injury?

Secondary spinal injury is like secondary brain injury (see Tim Hooper's presentation). The same factors that can cause the brain to deteriorate will also affect the spinal cord:

- Mechanical eg. direct pressure
- Hypoxia
- Low blood pressure
- Inflammation
- Swelling
- Collection of blood pressing on the cord.

- The incidence of unstable injury in MR survivors is very small
- Deterioration is not only due to movement
- Most fractures in MR are thoracic and lumbar.

KEY MESSAGE

Spectrum of spinal injury

1. Uninjured spine.
 2. Stable injury with no potential neurological compromise.
 3. Unstable injury or potentially unstable but with no neurological compromise.
 4. Unstable injury with neurological compromise.
 5. Severely injured patient with unknown spinal status.
- We are worried about categories 3-5.

Who to immobilise in mountain rescue

- We should employ the principle of 'selective immobilisation' ie. only immobilise those casualties in whom there is a clear indication and in whom the benefit will outweigh the potential harm.
- We need to identify unstable or potentially unstable injuries and protect unconscious trauma patient so there is <1% chance of missing significant injury.

Rules for identifying a potential C Spine injury that should be immobilised

- There are two sets of rules: the NEXUS and the Canadian C Spine rule (CCSR)
- Both rules will immobilise more than is required to be safe.

NEXUS CRITERIA

- No midline cervical tenderness
- Normal alertness (when spine is assessed)
- No focal neurological deficit (eg. pins and needles or weakness)
- No intoxication (drugs or alcohol)
- No painful distracting injury.

- The disadvantage of CCSR is that one of the criteria is a fall >1m, which immediately includes virtually all MR casualties.
- NEXUS has advantages that make it more appropriate for MR:
 - o Applies to all casualties at any age
 - o Not dependent on mechanism
 - o No initial step that preselects falls
 - o Simple to apply
 - o Simple to remember
 - o Yes/No answers.
- A distracting injury (DI) is any painful injury that might distract the patient from experiencing pain in the cervical spine. In other words, it is not a DI if the patient can maintain focus during the examination despite other injuries. Thus, injuries to the lower body (including fractured femur) are not a DI, whereas chest torso injuries are
- NEXUS has five criteria. Apply these in any high risk cases eg. tumble falls, jumps or high speed falls. If any are positive, then immobilisation should be applied. Conversely, if none of these are present, cervical spine immobilisation is not required.

There is a lot of published evidence indicating that NEXUS is safe for pre-hospital use. For example, a study published in 2015 of 1151 cases showed that Emergency Medical Services were able to correctly apply the rule in 99.7% cases and no C Spine injury was missed. NEXUS is also endorsed in the Wilderness Medical Society 2014 guideline for spine immobilisation.

Thoracolumbar spinal injury

Immobilise if:

- Pain in thoracic or lumbar spine regions.
- Any neurological signs or symptoms.
- A decreased conscious level.
- Evidence of intoxication.
- The presence of distracting injuries.

If there is pain, it is generally not possible to 'clear' these in the field.

- Use a decision making rule in pre-hospital setting to decide who to immobilise
- Cervical spine decision making rules (NEXUS and CCSR) have been used successfully in prehospital care by medical and non-medical personnel.

KEY MESSAGE

Methods of immobilisation

- There are a number of choices available:
- Manual inline stabilisation is as good as a collar.
 - Trapezius squeeze is more effective than head squeeze during transfer.
 - Lift and slide causes less spinal movement than log roll.

Are cervical collars 'A symbol of good trauma care'?

- In the past, we have thought so. There is less C Spine motion with a collar than without, but:
- A collar does not completely reduce motion in unstable injury.
 - Rigid collar increases movement at junctional zones (ie. at top and bottom of the C Spine) which can be dangerous.
 - Well-fitting collar reduces movement to 66% of normal flexion and extension.
 - Well-fitting collar still allows 57% of normal axial rotation (ie. rotation) and 53% bending sideways.

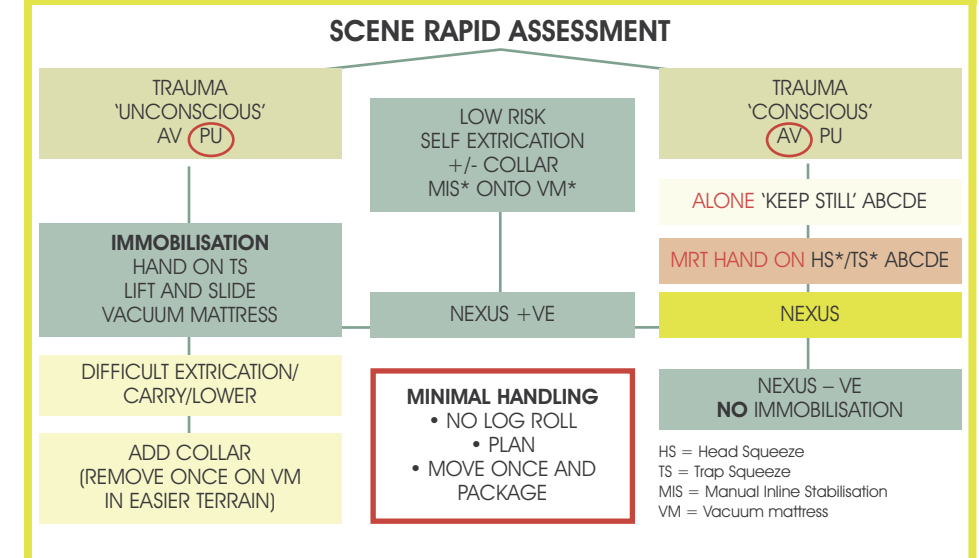
Collars are not harmless

- Increase intracranial pressure.
 - Increase risk aspiration.
 - Unable to open mouth.
 - Make airway management difficult.
 - Uncomfortable/painful.
 - Delay transfer/evacuation.
 - In MR may make evacuation more complex, dangerous, time consuming.
 - Risk of ulceration of the skin on which the patient is lying (if used with spine board).
 - Decrease respiratory efficacy (if used with spine board).
- The Faculty of Prehospital Care advises

- Collars have side effects which may significantly affect MR patients who are characteristically laid flat on a stretcher for a prolonged period with other injuries.

KEY MESSAGE

MANAGEMENT OF THE C SPINE



that a vacuum mattress is the tool of choice for spinal immobilisation.

What keeps the neck most stable during evacuation?

A spine board and head blocks keeps the neck more stable than a collar plus spine board. Adding a collar to this combination does not increase protection. Importantly, research has shown that a correctly-applied vacuum mattress keeps the neck more stable regardless of whether or not a collar is used. In particular, there is less movement at the neck-shoulder junction.

Can it be safe to allow a casualty to extricate themselves?

Research has shown that conventional techniques (collar and spine board) cause more cervical spine movement during extrication than self-controlled extrication.

Finally, Mike has emphasised that whenever any form of immobilisation is used, it is essential that at handover, we state that 'this patient has received spinal

immobilisation that must be retained until they are assessed in hospital'.

- A collar reduces some movement but increases others
- A cervical collar is one tool to assist immobilisation but is not adequate by itself
- Collars are not always a necessary part of an immobilisation strategy if achieved by other means
- Double immobilisation (eg. head blocks + collar) has not been shown to be of clinical benefit.

KEY MESSAGE

- Movement is not the only cause of deterioration after SCI
- Use trapezius squeeze during movement
- Select at-risk patient using a decision-making rule (ie. NEXUS) – this requires education and practice
- Always use vacuum mattress 'packed' as head blocks
- Only use a collar when it will improve immobilisation.

KEY MESSAGE

3: Fracture Management in the field

Mr David Knowles Trauma and Orthopaedic Surgeon, University Hospitals of Morecambe Bay

Fractures may be hard to recognise so you should be on the lookout in all significant trauma. Although fractures may be life or limb threatening, don't forget that the fracture is only the bony part of the injury. It is a 'signpost' to the energy absorbed by the patient so a major fracture is likely to be accompanied by significant internal injuries.

Fractures are important because bones act as a scaffolding to protect surrounding and underlying soft tissues. A fracture indicates that energy has been transferred to the body. Fractures can also cause

secondary injury eg. the broken end of a bone can damage a nearby nerve or blood vessel. Bleeding associated with fractures can be external (when the bone breaks through the skin) or internal. It is generally

worse in open fractures. For example, there is a 0.5-2.5L potential blood loss from a

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fractured femur. A single fractured femur rarely causes hypotensive shock, therefore, if shock is present, look for other sites of bleeding. Femoral fractures may be associated with other injuries. Clearly, multiple injuries have an additive effect on the risk to the casualty.

How to spot a fracture

- Position patient found
- Open wound at site of suspect fracture
- Blood at scene/on casualty
- Deformity
- Bone exposed
- Change in limb function, perfusion, sensation.

There are two types of fracture to worry about:

Limb-threatening fractures

- Open fractures
- Presence of soft tissue tension or vascular compromise
- Fractures with compartment syndrome (a painful and potentially serious condition caused by bleeding or swelling within an enclosed bundle of muscles — a muscle 'compartment').

Life-threatening fractures

- Skull
- Cervical spine
- Pelvis
- Multiple long bones.

Essentials of fracture management

Do not get distracted by a spectacular fracture. Before doing anything else, it is essential to do the primary survey. Airway plus cervical spine, breathing, circulation plus haemorrhage control and issues around conscious level must be stabilised before attending to the fracture.

Practicalities

Fracture management in the field is about managing bleeding and minimising soft tissue damage. Respect the soft-tissue envelope (ie. skin, muscles, etc.) that surrounds the bone. Deformity damages skin and soft tissue by 'tenting' the skin at the fracture site, and injures the rest of the leg by compressing or kinking blood vessels. These can be improved by correcting deformity towards normal.

Note that reducing a fracture on the hill is not about correcting the fracture; it's about protecting the soft tissues. Always look for signs of vascular compromise because if present, this makes things more serious. Regardless of how bad the fracture is, prioritise management with the overall safety of the casualty in mind. Don't be afraid to move the limb if necessary and don't sweat over things you can't change. Some fractures bleed a lot and there are a number of ways of controlling this.

Splinting is useful as it controls movement between the broken bone ends and allows the blood to clot. It can also help control bleeding by 'tamponade' (tissue pressure presses on the vessels and stops them bleeding). This is especially important in bones that bleed a lot such as the pelvis and femur. Other methods include pressure, elevation and wound packing.

Open fracture management

- Remove gross contamination.
- Dress with moist sterile pad.
- Give antibiotics.
- Control bleeding with direct pressure. Pack the wound if blood soaks through. Indirect pressure (ie. pressure on the femoral artery) may also be necessary in extreme cases.
- If a large foreign body is present (eg. a stick), leave it in place (though you can trim the end off to facilitate transport). Never remove it. The internal section could be plugging a major blood vessel

and if you remove the item, it will be followed by a gush of blood.

Splinting

Splinting should be done before transport. It helps control bleeding, is often more comfortable for the patient and helps to reduce secondary injury from fractured bone ends. Assess the neurovascular state before and after applying a splint, to make sure the splint has not made things worse. The choice of splint depends on the location of injury. If applying a traction splint to a femur, try to administer adequate analgesia before applying the splint. Most femoral traction splints rely on an intact pelvis and lower leg and ankle. Therefore, do not use if there is a suspected pelvic fracture suspected. The exception is the Kendrick that might be safe to use in the presence of a pelvic fracture. Also, do not use a traction splint if there is an associated lower leg fracture on same side.

Neck of femur fracture

The characteristic sign is that the affected

leg is rotated outwards. This is most easily seen when the casualty is lying on their back. To stabilise this, place padding between the knees and wrap a figure 8 bandage around the ankles. This uses the good leg to splint the bad one. Finally, place a broad bandage above and below knees.

Summary

- Primary Survey first (include safety of surroundings).
- Prioritise life threatening injuries ABCD.
- Spine, pelvis, femur, open fractures are the most worrying.
- Assess fracture site, adjacent soft tissue, nerve and blood supply.
- Record the findings and relate to clinical picture.
- Pain relief and reassurance (reduce 'emotional temperature').
- Splint fractures appropriately.
- Continually reassess pain/nerve and blood supply during evacuation.

Conduct of a rescue

1: Primary survey

Dr Les Gordon Medical Officer, Langdale Ambleside MRT

The primary survey is applicable in trauma and medical cases. It is a framework to quickly identify and treat or stabilise life-threatening injuries or illnesses. Everything else can (and should) wait. NOTE: It is NOT about coming to a diagnosis. This will be done later. The primary survey is the key to good quality Casualty Care. Failure to undertake a proper primary survey can lead to the progression of injuries or even avoidable deaths. Therefore, all casualty carers should be able to do a good primary survey (official MREW position).

A national review of trauma management carried out in 2007 concluded that 'it is vital that all patients who have sustained serious trauma should have a primary survey conducted at the earliest opportunity, and that critical resuscitation involving airway, breathing and circulation (with cervical spine control) should be undertaken and reviewed throughout the pre-hospital phase of care. This must be documented'.

You don't have to be a doctor to do a good primary survey. Keep it simple and focus only on identifying life-threatening problems and dealing with them. Do not get distracted by other injuries eg. a badly deformed arm. Discuss issues with other team members. The trick is to follow a structure so that care will be organised and effective.

Start at the first step. When you find a problem, attend to it as best you can. Do NOT move on until you have done all you can with the current problem. NB. this may

mean staying at one point for some time. If at any time the patient gets worse, restart from the beginning of the primary survey.

The primary survey is about quickly obtaining the essential information with your eyes, hands, ears and a wrist watch. For example, you don't need to measure the BP at this stage. Just feel for a radial artery pulse and count it. Knowing precise BP or SpO2 at this stage won't improve your ability to provide life-saving care. They just quantify severity of illness. Only rarely during primary survey will you need an instrument to measure things that cannot be established manually (see later).

If several casualty carers are on site, it is possible to do all sections of the primary survey simultaneously — a 'pit crew approach'. However, this is tricky without strong leadership. Someone must oversee the whole process and direct others appropriately to specific tasks. Above all, people must not just dive in without direction

from the leader. If it is to work, everyone involved must be able to do a primary survey as an individual.

As you are arriving in the vicinity, you must check for safety (yourself primarily, and then the casualty and any accompanying persons). Try also to 'read the wreckage' ie. gain clues to what has happened and how the casualty appears to be. When you arrive on scene, ask for brief description of why you were called. You don't need an in-depth history at this stage. Ideally, a few sentences eg. fall from a crag; bee sting and feeling ill; etc. This alerts you to a mechanism and possible immediate problems. For example, a major fall means spinal injury is a possibility. However, don't focus exclusively on what you have just been told or you could miss something.

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PRIMARY SURVEY IN A NUTSHELL

- Catastrophic bleeding
- Airway + Cervical spine
- Breathing
- Circulation
- Disability
- Exposure/Environment

with which illness and injury kill. Also, later problems cannot be treated successfully without first attending to the earlier ones. Anaphylaxis is rare in MR. It can present in different ways eg. airway obstruction, breathing difficulties (wheeze) or cardiovascular collapse. If it is suspected, treat it immediately with intramuscular adrenaline (epinephrine).

Catastrophic bleeding is a concept that comes from military and is bleeding that is so severe that the casualty will bleed to death in a few minutes. It is rare in MR unless you are nearby when someone falls (could be a colleague!). Treat this with pressure, more pressure, packing open wounds, and haemostatic dressings (if carried). If it's a limb, elevate it. Catastrophic bleeding is treated before ABC unless using a 'pit crew' approach when someone can tackle this while others get on with rest of primary survey.

Airway and cervical spine. If the mechanism of injury suggests a possible C spine injury, use manual inline stabilisation immediately. But a flexible approach may be required depending on location, circumstances, conscious/unconscious casualty, number of rescuers present, available space, casualty position, etc. For example, it might not be physically possible to get to the head end of a casualty to apply manual immobilisation. It is essential to get priorities right and in perspective. A dead patient due to failing to manage a life-threatening injury but with an immobilised neck is not a good outcome.

Regarding airway management, casualties who are speaking normally usually do not need immediate airway management. A hoarse or weak voice that is not normally present may indicate a tracheal or laryngeal injury. Noisy breathing indicates an obstructed airway and will need immediate intervention. No sound can be very good (absolutely clear airway) or extremely bad (complete airway obstruction) so check carefully (not easy on a mountain).

If the airway is partially or completely obstructed, use appropriate interventions to clear it ie. head tilt, chin lift (except if possible C spine injury); jaw thrust; airway adjuncts eg.

oropharyngeal airway. Treat seizures at this stage if prolonged and causing airway compromise.

Breathing. Check for the presence of breathing (10 seconds). If it is present, count the rate over 30 seconds and calculate rate/min. Get a general impression of the breathing pattern and note whether the patient is struggling to breathe. Don't worry about SpO2 at this stage, especially if working alone. Look for life-threatening neck and chest injuries. The simplest way to do this is work down from the neck to the bottom of the rib cage looking for any signs of injury or uneven chest wall movement when the patient breathes.

Also check for subcutaneous emphysema (air under the skin that feels crackly when you press on it). Chest injuries are serious as there will usually be significant bleeding inside the chest. A pneumothorax may be present. Consider assisting breathing (bag-mask two-person technique) if the rate is 8/min or less (except in severe hypothermia when slow rate is OK). Give high flow oxygen for all critically ill cases or if history/examination suggest it could help. You can always remove it later. Conditions you treat in 'B' include asthma, anaphylaxis, inadequate breathing due to spinal injury affecting breathing muscles and respiratory arrest due to lightning strike. Specialised dressings can be used to cover an open pneumothorax (sucking chest wound). However, if these are not available, a three-sided dressing can be applied. Remember that these can block, allowing air to build up inside chest causing tension pneumothorax. If this happens, remove dressing immediately.

Circulation and haemorrhage control.

Note the skin colour, count the pulse rate and get an indication of blood pressure from whether you can feel a radial artery pulse (BP ~80 or above if you can feel the radial pulse). Measure the central capillary refill time on the forehead or centre of the chest by pressing for five seconds. Peripheral CRT is unreliable if the hands/feet are cold.

Look for less obvious bleeding — 'one on the floor and four more' (chest; abdomen; pelvis; long bones). Note the term 'long bones' which includes the tibia and humerus. Although smaller than the femur, breaking both tibias can lead to as much blood loss as one femur. Where possible, control significant bleeding using pressure, splints, etc. Splint pelvic and femoral fractures.

If unsure about pelvis, apply a SAM pelvic sling anyway. Consider the possibility of shock from any cause (heart, bleeding, spinal cord injury, anaphylaxis) eg. radial pulse hard to feel (indicating low BP) or very fast heart rate. Give oxygen (if not already done so) to any casualty with a 'C' problem. Conditions to treat in 'C' include shock, bleeding from major fractures, angina and anaphylaxis. If you suspect a myocardial infarction, ask a colleague to give aspirin and analgesia and to prepare for a possible cardiac arrest while the main rescuer carries on with primary survey.

Disability. In the primary survey, this means conscious level, not spinal injury. There are many causes of altered conscious level. Only some can be treated on the hill eg. hypoglycaemia. All will need close support and monitoring. Assess conscious level with AVPU (quicker and easier than

Glasgow Coma Score in the primary survey). Examine the pupils for size and reaction to light. It is important to describe pupil size in millimetres by comparing with diagrams on the side of the pen torch, and not descriptively (eg. dilated) as descriptions mean different things to different people. Treat seizures at this stage if appropriate and not already done so.

If consciousness is impaired in an insulin-dependent diabetic or it is unknown whether the casualty is a diabetic, consider finger prick glucose test if a machine is available. These machines can be inaccurate so be careful to understand their limitations. But the advantage of checking is that it avoids giving liquid glucose solutions unnecessarily, as these can be inhaled by an unconscious person. It is reasonable to measure temperature at this stage if it could be causing impaired consciousness (too cold or too hot).

Environment/Exposure. Treat significant temperature derangement and protect the casualty from the elements.

The fact that a primary survey problem has been 'sorted' does not mean that it cannot reoccur, so be vigilant. Any primary survey problem generally warrants immediate evacuation, by air if possible. Only when the primary survey has been completed and any indicated interventions undertaken can the secondary survey begin. Finally, thorough documentation is essential and will be of use to paramedic and hospital staff who have to care for the patient after MR has handed them over.

2: Oxygen use in mountain rescue

Dr Steve Rowe Medical Officer, Edale MRT

Historically, it has always been practice to give lots of oxygen to anyone who is ill. Too little oxygen is bad and worsens outcome. However, in recent years, it has become increasingly clear that in some situations, too much oxygen can be as bad as too little.

The mechanism of this is not entirely clear. Excess oxygen has been shown to cause constriction of the coronary arteries, and studies have shown that in myocardial infarction, the amount of heart muscle affected is greater and outcome may not be as good if excess oxygen is given. Consequently, it is now routine practice by ambulance crews to monitor the oxygen saturation and only give oxygen if the level drops below 95%.

But MR is not an ambulance. The guidance from the British Thoracic Society is that 'although it is appreciated that oxygen must be used on a more pragmatic basis, if it is not possible to obtain a reliable oximetry reading due to conditions such as shock or hypothermia, or if oximetry is not available, or if the volunteer has not been trained in its use' then it should be given.



Image © Cockermouth MRT.

3: Recent medical developments relevant to mountain rescue

Dr Karen Greene Medical Officer, Wasdale MRT

Karen identified five topics that are of particular interest to MR:

UK Resuscitation Council guidelines 2015 (download free from the website)

- Communication.
- Mechanical chest compression devices
- Hypothermia guidance has been updated and is in line with the MREW Hypothermia Protocol.
- New treatment algorithms for avalanche, drowning and traumatic cardiac arrest.
- If the number of casualties overwhelms healthcare resources, withhold CPR for those without signs of life.
- A section on first aid is included for the first time.

Mechanical CPR devices

- No difference between manual CPR and mechanical device in terms of long-term outcome. Therefore in hospital with lots of staff and a stationary patient, manual CPR is acceptable.
- In MR, the conditions are very different and a mechanical device can be used.

Minimal handling

The Faculty of Prehospital Care issued a consensus statement in 2013. The main points were:

- The long spinal board is an extrication

device and should no longer be used for providing spinal immobilisation during transport to definitive care.

- The scoop stretcher should be used for patient transfer and to provide spinal immobilisation.
- Patients should be managed according to a package of minimal handling considerations.
 - o In order to promote haemostasis, the principle of a single movement early on in the patient's care should be adopted with the intention of restoring the patient to the anatomical position.
 - o Under this single movement principle, all necessary interventions and procedures should be carried out contiguously.
 - o Risks of log-rolling were highlighted: ...increasing evidence that movement of the patient and changes in their positioning and orientation may promote further internal haemorrhage. In addition, it may not maintain alignment of the spinal column in the patient with spinal injuries. This is why in MR, we now use the lift-and-slide technique.
- The patient should be immobilised on the scoop stretcher with scoop-to-skin.
- When the total time immobilised on a scoop stretcher is likely to exceed 45 min, consideration should be given to using a

vacuum mattress, which is what we do in MR. Vacuum mattresses provide the most comfortable method of immobilising the trauma patient with the lowest incidence of pressure tissue injury.

Femoral traction splints

- (Review paper published by Mike Greene).
- Femur fractures are rare and traction splints used infrequently in MR.
- MR members report few difficulties in use despite their limited practical experience.
- Current literature evidence suggests that traction splints maybe no more beneficial than simple splints.
- Further research is required to compare traction splints with simple splints and to evaluate their contribution in relieving pain, haemorrhage, other complications, and outcome for patients with a fractured femur.
- We suggest the use of a traction splint is reasonable when there is a suitable indication and no contradictions. However, in keeping with ICAR guidelines, we accept that other forms of splinting may be equally or even more appropriate in the resuscitation.

Resus training: new online learning app

See resus.org.uk/apps/lifesaver. There are versions for smartphones.

4: Understanding Helimed. Useful information for mountain rescue teams

Andy Dalton Paramedic, Great North Air Ambulance

Andy provided an interesting and useful overview of the Air Ambulance service with particular reference to how this might affect their ability to support MR. The purpose of HEMS is to facilitate emergency medical assistance where immediate and rapid transportation is essential by carrying medical personnel, medical supplies (equipment, blood, organs, drugs) or sick or injured persons and other persons directly involved.

There is specific legislation relating to this, which is overseen by a number of official bodies including the Civil Aviation Authority. As Helimed often flies in densely populated areas and near industry, there is tight legislation relating to safety issues and when and where the aircraft should be able to land in the event of a critical power failure. There are also restrictions imposed by weather

conditions. Flying is only possible if cloud base is >500 feet, there is >1500m visibility and wind speed does not exceed 50 knots at start and shutdown. Although the aircraft have infrared capability, the last HEMS landing must be within 30 minutes of sunset. This has obvious implications for MR because it defines times and situations when air support will not be available. In

extreme situations, the pilot can choose to land anywhere but this can introduce significant danger to the aircraft, occupants and to other structures and people. The final decision about a landing site always rests with the pilot. However, it is useful for teams to be aware of the criteria used as this can help identify a potentially acceptable site. These are remembered by the five 'S's':



Helimed Paramedics and mountain rescue trainees working together on a training exercise © Al Day.

- Size (>30 metres).
- Shape.
- Surrounding obstacles and wires have been identified and do not infringe the approach and departure flight paths.
- Surface free of debris and the harder the better.
- Slope <10% in all directions.

Regarding Helimed staff, the pilot must have a minimum of 2000 hours as pilot in-command. The medical crew consists of a paramedic (>2 years post registration), a doctor (consultant level from an appropriate specialty with prehospital care experience and possibly a Prehospital Emergency Medicine trainee. All medical crew undertake appropriate training to work safely in an aircraft. The level of medical expertise on the aircraft enables a number of advanced clinical procedures, if necessary. There is a clearly defined pathway to identify casualties who would be better being transferred directly to a major trauma centre rather than the nearest hospital.

Environment

1: Medical problems during endurance race events

Dr Paul Simpson Race Doctor, Kendal

Major concerns

Hydration disorders

More athletes run into problems from 'over-drinking' than from dehydration and the consequences are more severe. Drinking to excess often in an attempt to reduce dehydration risk, causes dilution of the body's electrolytes, resulting in low blood sodium levels (hyponatraemia), this can result in very severe medical problems including swelling of the brain. The problem can be made much worse by the use of anti-inflammatory drugs (NSAIDs) such as ibuprofen. Taking electrolyte solutions has not been shown to reduce this risk to any significant extent. The risk is dependent on the quantity of fluid consumed not the type of fluid, adding electrolyte to fluids consumed will not prevent hyponatraemia.

Unfortunately, the symptoms and signs of over or under-hydration may be non-specific, as they tend to be of all the exertional syndromes. Weight gain may give clue of fluid overload, as may finger swelling, although I would not place much

importance on the latter in isolation. Behavioural and conscious level disturbance and seizures are features of exercise associated hyponatraemia (EAH).

The West Highland Way Race and LU50/100 experience has shown that all athletes would be expected to lose weight. Indeed some of the quickest competitors were losing significantly more than the 4% weight noted in their pre-race guidance. Athletes will also lose weight as glycogen (energy store) levels drop as those glycogen reserves are associated with water. We weigh any athlete giving any cause for concern and we are concerned particularly if an athlete is gaining weight. All competitors have their pre-start weight checked and written on their ID tag to assist with diagnosis if unwell. The West Highland Way race has a stricter policy of weighing competitors at certain checkpoints, those with losses or gains greater or less than 4% being assessed by the medical teams. Pre-race education seems to have minimised this issue for ultra runners. The simple message is now: drink to thirst.

Exercise associated collapse EAC/ Exercise associated postural hypotension EAPC

In general, younger athletes are at risk of previously undiagnosed cardiac rhythm disorders or congenital cardiac muscle disorders (resulting in rhythm disorder and sudden death), the older athlete from undiagnosed arterial disease and MI (heart attack). Collapse after running in association with low blood pressure usually requires monitoring only and simple treatment. This has been extremely common at the Ultra 50/100 event and the main problems have been identifying the issue correctly and removing the helpful friends who keep the affected athlete in an upright position.

Exertional heat illness and hypothermia

These topics are covered by other presentations so Paul only alluded to them briefly. Heat illness can be absolutely catastrophic and requires urgent measures to manage. We haven't seen any significant

medical problems directly related to heat or cold at the Lakeland Ultra. In relation to heat, I can only assume that this is because competitors in the early stages of illness are able to slow down, stop, manage their clothing requirements or jump in a stream (all of which happen). Hypothermia has not been a significant problem and again competitors in the very early stages have been stopped and warmed at the relatively frequent checkpoints.

Muscle breakdown/Rhabdomyolysis

Muscle break down and liberation of muscle proteins into the circulation has multiple consequences, including clogging of the kidneys, which then fail. The manifestations of this are non-specific. Muscle soreness may occur, but all competitors can expect this, without implicating rhabdomyolysis. 50% of athletes with rhabdomyolysis pass red-brown urine, discoloured by muscle breakdown products. As 50% do not, absence of discolouration is no reassurance. Additionally, innocent blood in the urine can occur in runners. Medical evaluation of discoloured urine is warranted.

Compartment syndrome

Muscles which perform similar actions tend to lie next to one another and be enclosed jointly within a group covering of rigid sinew or fascia. Each group, or compartment, has its own blood vessels

and nerve. Following injury, usually traumatic, but sometimes overuse injury, the muscles swell within the compartment. The fascia is unyielding, so pressure rises and pain occurs. The rising pressure presses on the compartment's own blood supply making a bad situation worse. This process may occur in any group of enclosed muscles, but the lower leg is the commonest place. The main cause is trauma or overuse injury with pain disproportionate to any recognised cause, severe pain on using or stretching affected muscles and sometimes pins and needles in leg or foot below. Urgent hospital assessment is necessary if this condition is suspected.

Tick bites

It is possible to pick up deer and sheep ticks, which present a risk of Lyme disease. Remove any tick as soon as possible without crushing or squeezing and seek medical advice should rash or flu like symptoms develop. Make any healthcare provider seen aware of the tick bite and Lyme disease risk.

Common problems actually seen

Blisters

Might seem very basic but if you can help a competitor effectively with a blister during the event you'll be very popular.

Acute injury

Mainly ankle inversion injuries, cuts and grazes from falls, but competitors have run for surprising distances with fractures! The ability to use tape and strapping well is certainly useful, I've been surprised how few attending physios can manage this skill.

Overload injuries

- Shin pain
- Back pain
- Hip flexor pain
- Tendon sprain.

The acute treatment of these issues can be difficult, I suspect that a lot of what we do is placebo based and frequently have to temporarily suspend my evidence based medicine approach.

Other points

- Gastro-intestinal disturbance (a problem as it can cause suspicion re EAH)
- Oedema (swelling), often unexplained, but concern re EAH
- Mental confusion, again concern re EAH, and in elderly other serious medical causes
- Chest pain, usually musculoskeletal but can give rise to concern regarding cardiac causes
- Finish line (or next 30 minutes) fainting (vaso-vagal) is very common.

2: Heat stress and heat illness

Professor George Havenith Director Environmental Ergonomics Research Centre, Loughborough University

Prof Havenith built his fascinating presentation around an endurance march held in the Brecon Beacons that was part of a test for selection to a specialist military unit (SAS). The estimated distance was 29-30km. The servicemen started at 6-7.00am and were given a time limit of 8 hours 48 minutes. They were carrying Bergan rucksacks weighing 49+ lbs, food, a minimum of 3 litres of water and a dummy rifle. Importantly, the day was unusually hot, after a dry spell, and there was no wind. The terrain was very hilly with steep gradients and at least six peaks over 600m high. There were a number of checkpoints on the route. By the end of the day, two soldiers had died and a third died in hospital 2½ weeks later.

What went wrong? There were multiple problems affecting:

- Prevention.
 - Risk Assessment before start.
 - Monitoring symptoms at checkpoints.
- Lack of heat acclimatisation.
- Dehydration.
- Locating the soldiers when they failed to arrive at a checkpoint.
- Initial treatment.

The body generates heat principally by physical work and acquires it by radiation from the environment (direct and reflected). The body has several ways to respond to

heat stress in order to lose heat: by breathing, radiation, conduction, convection and the evaporation of sweat. In the conditions that were present on the day, the heat production by intense exercise was 10-20 times the resting heat production and is equivalent to 1200-2000 Watts. Unless it is possible to compensate, the body temperature will rise 1°C in five minutes.

From known data and the weather forecast, it would have been possible for the army to predict what would happen physiologically to the soldiers. In fact, they have guidelines specifically for this. On the

basis of these calculations, the exercise should have been stopped or changed. In addition, there were insufficient medical personnel at the checkpoints.

Heat stroke

Although some trained athletes have had a body temperature of 41.9°C without problems, in the general population, exertional heatstroke (EHS) is defined by hyperthermia (core body temperature



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>40°C) associated with central nervous system disturbances and multiple organ system failure. The death rate starts to rise steeply when the temperature goes beyond 41°C. Almost all EHS patients exhibit sweat-soaked and pale skin at the time of collapse, as opposed to the dry, hot, and flushed skin that is described in the presentation of non-exertion-related (classic) heatstroke. The reasons that heat stroke is so dangerous include:

- Internal organs get too hot leading to cell damage.
- Reduced blood flow to gut which becomes hotter. It becomes permeable to (fragments of) bacteria in the bowel which enter blood stream leading to endotoxic (septic) shock.
- Muscle tissue becomes too hot and breaks down (called rhabdomyolysis) leading to kidney damage.

Exertional hyperthermia is not that uncommon. One study of competitors in a 15 km road race run in cool conditions found 15% had a temperature >40°C. Factors increasing the risk of heat stroke are:

- Fitness
- Gender (possibly).
- Acclimatisation.
- Pre-disposing factors:
 - o Sunburn/alcohol abuse/drugs (antidepressants; diuretics; etc.)
 - o Obesity.
 - o Age>40.
 - o Genetic factors.
 - o Some infections.
 - o Previous heat illness.

The importance of acclimatisation cannot be overemphasised. In one study, after 90 minutes of exercise, the non-acclimatised

person will have a core body temperature about 1°C higher (40° vs 39°) and a heart rate 60/min higher (175 vs 135) than an acclimatised person. Sweating is an essential method of losing heat. Sweat production is 2-3 l/hour for an acclimatised person. Dehydration produces a range of symptoms depending on severity. Thirst starts when 2% of body weight has been lost (ie. ≈1.5 l). At 4%, there is dry mouth. At 6%, heart rate increases and body temperature starts to rise and sweating rate reduces. By 12% (ie. ≈8.4 l), recovery is only possible with intravenous fluids.

Water intake in hot conditions

Recommended water intake in hot conditions has been calculated according to the size of the heat stress (as measured with a Wet Bulb Globe Temperature Instrument). Exercise beyond low to medium intensity is dangerous in very hot conditions. Even at this exercise level, one would have to drink about 1 l/hour. To offset sweat losses during periods of prolonged work (longer than four hours) without additional food intake, it is recommended that electrolyte beverages should replace plain water.

Where these are not available, salt should be added to plain water, a suitable concentration being achieved by the addition of one sachet (1g) of salt to one litre of water or 2 x 1g sachets to 1.5 litres of water. But there is a maximum that can be absorbed (≈1-1.5 l/h). The soldiers only had 3 litres of water and were exercising heavily. Water should have been available on the route but wasn't. Thus the soldiers were very dehydrated and this was a contributing factor to the bad outcome.

Practical guidance for MR

- For risk estimation, assume in the UK that people are not heat acclimatised.
- The risk is highest on first hot days.
- An active lifestyle provides partial acclimatisation and acclimatisation is one of the most powerful adaptations of the body.
- It is important not to drink excessive water as this dilutes the amount of sodium in the blood (hyponatraemia) and can cause life-threatening problems. Hyponatraemia is possible in MR casualties but it is unlikely that MR personnel will be at risk so long as they use common sense and experience. Use drink with electrolytes or salted foods for prolonged missions.
- If you encounter a case of heat stroke, take action immediately. Shield from the sunshine, remove clothing and start cooling if possible. Ideally cool before transport but do not overcool. Best whole body cooling rates (ie. range 0.15-0.24°C/min) with cold water and ice water immersion produces the lowest morbidity and mortality rates. However, these will not be available on a mountain. Warm air mist and fanning techniques provide slower whole body cooling rates and are most effective only when the relative humidity is low because this method depends heavily on evaporation for cooling efficacy. Cooling therapy should continue until rectal temperature and mental state indicate that treatment is successful.
 - Regarding the measurement of body temperature, the rectal route is best. Ear, oral and skin are less accurate in these cases.

3: Management of severe hypothermia

Dr Peter Paal Dept Anaesthesiology & Critical Care, Innsbruck, and ICAR MEDCOM Research Centre, Loughborough University

Accidental hypothermia is defined as the presence of a core temperature <35°C. Severe hypothermia is defined as a core temperature <28°C. Accidental hypothermia is more frequent in winter but must be expected at all seasons of the year, even in regions with a warm climate. The incidence of accidental hypothermia in multiple trauma patients is underestimated, but may exceed 30%.

Patients with a history of cold exposure or a disease that predisposes them to hypothermia, with a cold trunk, or whose core temperature is <35°C should be considered hypothermic. The modified Swiss staging of hypothermia (HT I-V) may be determined clinically, based on vital signs (Table 1) and is favoured over traditional staging (mild, moderate, severe, profound) whenever core temperature measurement

is not readily available. Core temperature measurement will confirm staging and support appropriate transport and management decisions. Properly calibrated, low reading thermometers are required but are not always available in the prehospital setting.

Accidental hypothermia in multiple trauma is an independent risk factor for increased mortality. Multiple trauma patients

are prone to accidental hypothermia because thermoregulation is inhibited due to haemorrhage (under perfusion of thermoregulation centres in the brainstem), reduced or abolished shivering, and vasodilation due to some analgesic drugs.

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In elective surgery patients, even mild hypothermia (ie. temperature reduction by 1°C) increased bleeding (+16%) and transfusion requirements (+22%). In multiple trauma patients, hypothermia is part of the deadly triad, consisting of (respiratory and metabolic) acidosis, haemorrhage, and hypothermia; and may if not sufficiently counteracted, result in death. A decrease in core temperature dramatically increases mortality and has been shown in burns, hip fractures and multiple trauma.

Pre-hospital treatment

Priorities for pre-hospital treatment include careful handling, provision of basic or advanced life support (BLS or ALS), passive and active external rewarming, and transport to an appropriate hospital. Detecting a pulse in a hypothermic patient may be difficult, therefore signs of life and pulse should be checked carefully for 60 seconds. Persistent breathing or movement should prompt a 'watchful waiting' strategy, but if no signs of life are detected cardiopulmonary resuscitation (CPR) should be started. Advanced airway management should be performed if indicated.

Muscle activity (eg. shivering, active movements) is a very efficient mechanism of heat production, and it is very important for rewarming as long as patients are able to shiver (ie. in hypothermia I, HT I). At rest shivering may increase heat production fivefold but also basic oxygen requirements. Shivering will cease when energy stores are depleted (ie. when people are exhausted eg. within hours) or when core-temperature drops below an individual's threshold (Table 1). Multiple trauma, other co-morbidities, intoxication, analgesia or sedation may hasten cooling as they impair thermoregulation (ie. vasoconstriction, shivering).

If shivering has ceased (eg. in HT II-V) patients will cool faster. Patients should be insulated from cold, wet, and wind as soon as possible. Ideal pre-hospital patient packaging includes a vapour barrier, an external heat source (eg. chemical heat packs), dry insulation (eg. blankets), a heat reflector (eg. rescue foil) and a wind barrier. Emergency medicine teams including MR should have protocols and equipment in place to treat hypothermic patients.

It is unclear how much a patient with HT I will benefit from uptake of warm, sweet, non-alcoholic drinks. Wet clothing removal, the provision of a vapour barrier and blankets eliminate the need to remove wet clothes. Applying two blankets to the vapour barrier instead of one improves cold comfort. However, wet clothing removal increases patient comfort but can cause rapid cooling if done in a cold or windy environment. Ideally, the hypothermic

TABLE 1: REVISED SWISS STAGING OF ACCIDENTAL HYPOTHERMIA. THE LOWEST CORE TEMPERATURE WITH ACCIDENTAL HYPOTHERMIA WHICH WAS SURVIVED WAS 13.7°C

STAGE	CLINICAL FINDINGS	CORE TEMPERATURE °C
Hypothermia I (mild)	Conscious, shivering	35 to 32°C
Hypothermia II (moderate)	Impaired consciousness*, may or may not be shivering	<32 to 28°C
Hypothermia III (severe)	Unconscious*, vital signs present	<28 to 24°C
Hypothermia IV (profound; minimal circulation or cardiac arrest)	Vital signs absent or minimal	Cardiac arrest is possible <30°C The risk increases substantially <28°C and continues to increase with further cooling
Hypothermia V (death)	Irreversible death due to hypothermia	<13.7°C?

* Consciousness may be impaired by illness or trauma independent of core temperature

TABLE 2. EFFECTIVENESS OF REWARMING TECHNIQUES

REWARMING TECHNIQUES	REWARM RATE (°C hr ⁻¹)	INDICATION
Without cardiac support		
Warm environment and clothing, warm sweet drinks, and active movement (also pre-hospitally)	~2+(dependent on metabolic rate)	HT I
Active external and minimally invasive rewarming (warm environment, chemical, electrical, or forced air heating packs or blankets, and warm parenteral fluids)	0.1–3.4	HT II or HT IV with cardiac stability
Thoracic or abdominal lavage	~3	HT V when ECMO/CPB not available
With cardiac support		
Veno-arterial ECMO	~6	HT IV with cardiac instability or HT V
CPB	~9	When ECMO not available: HT IV with cardiac instability or HT V

CPB denotes cardiopulmonary bypass, ECMO extracorporeal membrane oxygenation, HT hypothermia

patient should be full-body insulated (eg. wrapping the whole body, including head and neck, with vapour barriers, ie. aluminium foil or bubble wrap, with insulating blankets, and wind-protecting rescue-bags. With short transport times, pre-hospital active rewarming may be only minimally helpful and expensive. With long transports (>1 hour) active rewarming may be considered, as time will allow for rewarming to occur.

Patients with impaired levels of consciousness (HT II-IV) should be transported on a stretcher and rough movements of limbs and trunk avoided. Patients removed from cold water should be kept lying flat to decrease the risk of post-rescue cardiac arrest (rescue collapse). Full body insulation and rewarming should be

provided to all patients as long as it does not impede CPR or delay transport. For pre-hospital rewarming, only chemical, electrical, or forced air heating packs or blankets provide a significant amount of heat transfer (Table 2).

Transport

Conscious, shivering patients (HT I) can either be managed in the field if they are uninjured or transported to the closest hospital if field rewarming is not possible (Table 1). Patients with impaired consciousness (HT II-IV) should be assessed for cardiac instability. Patients with a stable circulation require active external and minimally invasive rewarming (warm environment, chemical, electrical, or forced air heating packs or blankets, warm IV fluids,

see Table 2) and should be taken to the closest hospital with these capabilities. Patients with cardiac instability (eg., systolic blood pressure <90mmHg, ventricular arrhythmias), core temperature <28°C, and those in cardiac arrest should be transported to a centre capable of extracorporeal membrane oxygenation (ECMO) or cardiopulmonary bypass (CPB), unless comorbid conditions, eg. trauma, mandate transport to a closer facility.

Rescue collapse and afterdrop

Rescue collapse is cardiac arrest related to the extrication and transport of severely hypothermic patients (HT III). It has been attributed to circulatory collapse secondary to dehydration or cardiac arrhythmias and is triggered by interventions (eg.

movements), and further cooling. Afterdrop is defined as continued core cooling after rescue, which has been documented in artificial cooling experiments or inferred through discrepancies between rectal and core temperatures. With active external and minimally invasive rewarming with concurrent oesophageal temperature measurement, afterdrop has not been reported.

Conclusions

Advances in the safety and availability of rewarming techniques have improved the prognosis for patients presenting with hypothermia, especially in cases with cardiac arrest that are treated with extracorporeal rewarming. Hypothermic patients without cardiac instability should be

rewarmed with active external and minimally invasive rewarming techniques. With cardiac arrest, neurologically-intact survival may be possible if no hypoxic event precedes hypothermia (eg. drowning, avalanche), no serious underlying disease or trauma exists, and extracorporeal rewarming is utilised. For patients with cardiac instability or cardiac arrest, ECMO may be the optimal treatment and is preferred over CPB. Early transport to an appropriate facility and selection of the optimal rewarming technique has the potential to decrease complications and improve survival.

Death on the hills and coping after a distressing experience

1: CPR in mountain rescue – the pitfalls of algorithms

Dr John Ellerton Medical Officer, Patterdale MRT & Vice President, ICAR MEDCOM

Algorithms are schematic models of a clinical decision pathway that are more fully described in a guideline. The decision points are represented with yes/no nodes. If the wrong patient enters the top, a wrong result may well occur. They can only be a guide and should never override the clinician's or patient's best judgment. We often forget that, both during training and when applying an algorithm to a patient.

We have waited with great expectation for the new 2015 Resuscitation Council Basic Life Support algorithm. Will it be 30:2 or back to 15:2? Which drugs are in and which are out? This is the top of the algorithm...

'CPR should be performed in an out-of-hospital patient who is unresponsive and not breathing normally'

....words chosen careful to reflect two meanings!

For a moment, let's look at how the BLS algorithm has developed over time and compare it with 'Casualty Care in Mountain Rescue'. In the 1995 guidelines, there were five boxes of instructions before CPR; in 2005 there were three boxes and in 2015, there is just one box (responsive and check breathing). Interestingly, in 2000 in 'Casualty Care in Mountain Rescue', the medical chapter (Heart Attack — Cardiac Arrest) said 'Start resuscitation and use an AED ASAP'.

To me, these developments emphasise two ways of learning; two ways of doing medicine. On the one hand we have a

didactic, protocol driven pathway going from top to bottom. On the other a narrative describing a twisting country lane, going up, going down, and exploring most of the facets of a problem. Of course, the two ways are not mutually exclusive and there is a time and a place for both in their extreme. However do we teach both? Or do we get out a dummy and enter zombie mode!!

Why do I diverge so much from the Resuscitation Council? Well, I do and I don't! For the element of CPR, I am in entire agreement. ILCOR (International Liaison Committee on Resuscitation) informs us of the best science and its weak areas. It makes logical conclusions and allows us to enter into the world of rapid and correct decisions in a time-critical emergency. That is the easy bit that we teach and practice perhaps every six months to ensure our proficiency.

The UK Resuscitation Council presents the information for the British system, as does the American Heart Association and

the European Resuscitation Council for their populations. If you read the guideline behind the algorithm, you get a sense of the discussions that goes on between the scientists, the mathematicians and the public health experts. You can even pick up the tiny number of cases that can be transformed into a 'yes' and 'no' decision point. For example the drowning submersion cut off time of 90 minutes and the avalanche burial time increasing from 35 to 60 minutes. But I contend that we must diverge even before we enter into the top of the algorithm because the Resuscitation Council algorithm is not designed for mountain rescue. It is built on the précis of a patient collapsing in a the car park. To this entry population, it makes perfect sense, but the mountain rescue population, however, is entirely different. A snapshot of the

14 cases of BLS during a rescue, (Patterdale MRT 1984)

- Continuation of bystander CPR in SCA = 4 (29%)*
- Primary Hypothermia = 4
- Primary Drowning = 3
- Major Trauma = 3

Heart Attacks less frequent than special circumstances (Trauma, Suicide, Drowning, Hypothermia)

population Patterdale MRT sees is shown in the box above.

The second factor where mountain rescue diverges from the Resuscitation Council is in the time from the cardiac arrest to entering into the algorithm. These are times that inform the Resuscitation Council and state that defibrillation within 3–5 min of collapse can produce survival rates as high as 50–70%. The MR timeline is very different. Bystander CPR is usually undertaken for >30 minutes before the team arrives. Asystole is almost universal and can be assumed 20 minutes after the collapse. Once treatable causes* are excluded, you may stop.

We have learnt from the LDSAMRA/MREW protocol for admission to an ECMO centre that understanding the entry point is crucial. Do we emphasise this sufficiently in training?

BLS has to be balanced against its harm. That sounds strange as BLS failure results in the death of the patient. How many times do we hear, 'We gave him the best possible chance'? That may be so for the individual but not for everyone. It is generally agreed that it is unethical to resuscitate futile cases, or when it is against the patient's wishes. Likewise resuscitating a person to harvest organs is not acceptable. The extra dangers to rescuers and the psychological consequences on their health; the expense and the clogging up of resources are all part of the broader picture.

To address the issue of teaching that blindly follows algorithms, ICAR MEDCOM have attempted to balance the literature with this paper: 'Termination of CPR in Mountain Rescue. Peter Paal, Mario Milani, Douglas Brown, Jeff Boyd, and John Ellerton. High Altitude Medicine & Biology 2012;13: 200–208.' The aim of the paper was to establish scientifically supported recommendations for termination of cardiopulmonary resuscitation (CPR) in mountain rescue, which can be applied by physicians and non-physicians. It is particularly written to help the non-healthcare professional and less experienced healthcare provider when they have been sucked into a resuscitation on a mountain side. Similar work has been done in more urban settings but the mountain rescue arena allows the extremes to be brought into focus. The algorithm is shown in Figure 1.

What I would like to do next is to start at the top. We should describe our mountain rescue population that have BLS performed, and then, to my way of thinking, develop a narrative recommendation which might look something like Figure 2.

Blue boxes are management plans; red boxes are examples of suitable patients. Note the reference to practicality. Note the understanding that the management

doesn't start with 'is he unconscious'; we all have started forming our management plan long before the top box of the BLS algorithm. 'Rescue — Striding Edge, 54-year-old male collapsed. Bystander CPR in progress.' We all have an idea of what the plan is likely to be. Why not recognise that in our logistic decisions and importantly in our teaching?

FIGURE 1:

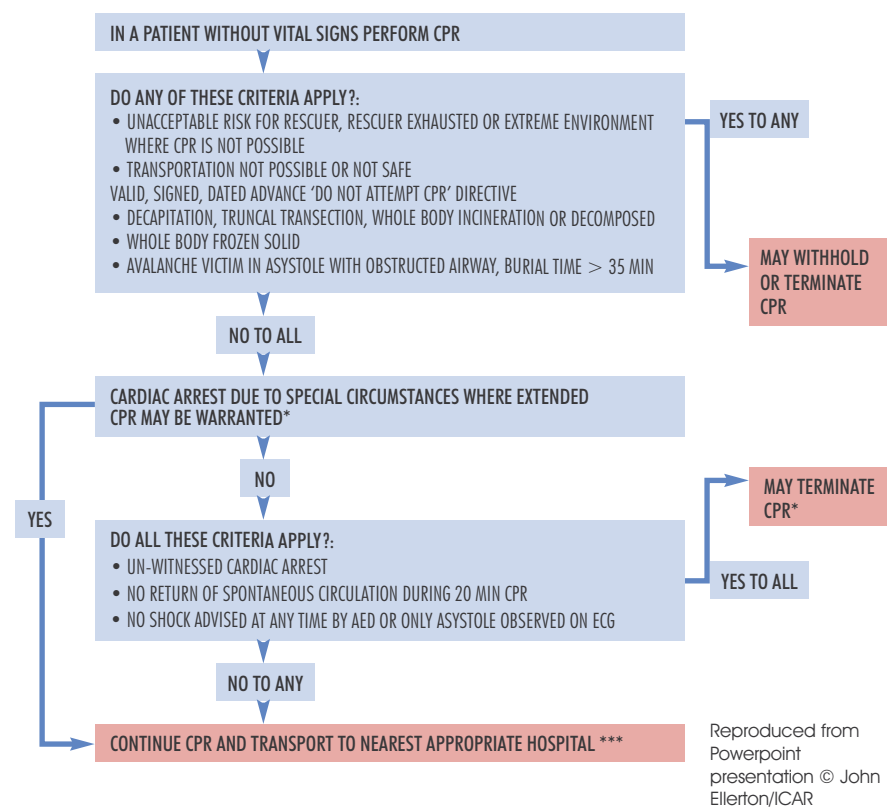


FIGURE 2: MR-SPECIFIC NARRATIVE RECOMMENDATIONS: DRAFT: ALS PROVIDER WITH MONITOR

MOVE UP A BOX IF PREFERRED BOX NOT PRACTICAL →

ALLOW NATURAL DEATH:

UN-WITNESSED ARRESTS WITH ASYSTOLIC ECG TRAUMA IF TREATABLE CONDITIONS HAVE BEEN EXCLUDED DROWNING > 90 MIN OF SUBMERSION

START CPR — STOP CPR IF ASYSTOLE AFTER > 20 MIN OF ALS:

WITNESSED ARREST BYSTANDER CPR IN PROGRESS. HYPOTHERMIC CASUALTIES WITH CORE TEMPERATURE > 30°C TRAUMA RELATED AFTER TREATABLE CONDITIONS LOOKED FOR AND TREATED WITHIN THE CONSTRAINTS OF THE SITUATION. LIGHTNING THOUGH MAY NEED PROLONGED VENTILATION DROWNING IN > 60°C WATER & < 90 MIN SUBMERSION

PROLONGED CPR:

HYPOTHERMIC CASUALTIES WITH CORE TEMPERATURE < 30°C AVALANCHE BURIAL > 1 HR, CLEAR AIRWAYS DROWNING IN < 60°C WATER & < 90 MIN SUBMERSION PERSISTENT VF/PVT ? SNAKE BITE

2: Trauma risk management

Steve Johnson Duddon & Furness MRT

As team members we are constantly called to provide help to those in need. Be it a climbing accident, the search for a despondent person, evacuating people affected by flooding or any of the other myriad of reasons for a call-out, we give up our time freely to help others. But this can sometimes come at a cost to our own wellbeing.

A call-out can come on top of an already stressful time at home or work. It may be that the incident itself is particularly harrowing, maybe a death or something that left us wishing we could have done more. Perhaps it is simply a feeling that people never learn, the same type of accident, in the same place, to another inexperienced or ill-equipped walker or climber.

When this happens, it is normal to feel a response physically, emotionally or mentally. Such responses are our way of coping, a natural part of our own healing or recovery process. Sometimes, because of particular circumstances we may find these natural responses aren't helping or we need a little more support, advice or simply just someone to listen. Recognising that such circumstances occur, many teams are following the example of the armed forces, police and government departments and training team members as Trauma Risk Management (TRiM) assessors.

TRiM is not therapy, counselling or some 'touchy, feely' intervention. It is a post-

incident, peer-led, risk assessment process that can help you recognise when the response you have to a particular incident is one that is totally appropriate or one where you may benefit from a different approach. The MR team member who guides you through the TRiM process can help provide reassurance about natural reactions to traumatic situations as well as giving you the opportunity to discuss coping strategies, some new, others that you may be familiar with. They can also help signpost a wide range of resources, help and support that is available and designed to provide you with the knowledge and skills you need to function effectively even in difficult times.

For team leaders, doctors and management groups it is important to recognise that establishing an effective post-incident response and using the TRiM resources and training available, is an essential part of the duty of care expected within the emergency services. In fact, the National Institute for Health and Care Excellence recommend the use of

screening instruments such as TRiM routinely for those involved in incident response.¹

The TRiM process can be triggered by the team leader who can ask assessors to contact members involved in a particular situation. Or, through good team communication, members can be reminded that they can call a TRiM assessor in their own or other team whenever they feel they would benefit from talking to someone else. The discussion is always one that focuses on facts not feelings and is aimed at identifying pertinent risk factors and providing help to address these if appropriate.

TRiM practitioners can also be involved in resilience planning and major incident response as advisers and with regards to psychological site management during long and complex events. The key is that there are trained members within mountain rescue teams who can and will provide help and assistance when asked.

¹ NICE Guideline CG26: Post-traumatic stress disorder: management. Updated June 2015

MOUNTAIN RESCUE FAMILIARISATION FOR SPECIALIST PRE-HOSPITAL DOCTORS

DR JUSTIN SQUIRES EDALE MRT

In June 2015, Edale MRT ran an MR familiarisation day for specialist doctors training in pre-hospital emergency medicine.

This is a relatively new specific training scheme, usually lasting two years, on top of a doctor's base training programme (typically in emergency medicine or anaesthetics). It leads to a dual specialist certification in pre-hospital emergency medicine and the base speciality. Many of these schemes place doctors with established air ambulance services or ambulance service medical emergency teams. The nature of the schemes means that an increasing number of doctors will come into contact with mountain rescue in several parts of the UK.

Three doctors from the West Midlands training scheme attended, plus two from the east of England, as well as two senior doctors from the air ambulance service.

Following a general presentation on MR, the day started with indoor crag wall training to rescue a casualty on a very narrow ledge. This helped the doctors appreciate the complexities of working in a difficult access crag environment, and they did well to load a stretcher then barrow it safely to the ground. We familiarised the group with MR equipment including stretchers, wheels, vacuum mattress and the

use of advanced analgesia such as fentanyl lozenges.

In the afternoon, we explored likely scenarios including a head injured mountain biker needing rapid evacuation to a helimed landing zone, a paraglider crashed on an awkward slope and a badly injured walker in a difficult gully with reducing consciousness. The doctors worked with Edale team members to effect these rescues, learning at first hand the complexities of the environments we work in.

Good weather was had all day and excellent feedback from participants shows the value of

sharing our skills and expertise to help this group understand better our role, skills and equipment before they come into contact with us in real life.





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	Sunday 17/4	Monday 18/4/16	Tuesday 19/4/16	Wednesday 20/4/16	Thursday 21/4/16
I	1 st Aiders Programme	Paramedic Programme	PHEM/HEMS Programme	Major Trauma in ED Programme	NeuroTrauma Rehabilitation 2 Programme
II	Community First Responders Programme	'9th National Fire & Rescue Service Trauma Conference	UKSAR Programme	Trauma Critical Care	Orthopaedic Trauma
III	Primary Accident Prevention Programme	Nursing Programme	TARN Programme	Damage Control Resuscitation & Surgery Programme	Maxillofacial Trauma
IV	Extrication Programme	Sports Trauma Programme	Trauma in Children Programme	Burns, Plastics & Reconstruction Programme	Spinal Cord Injury Programme
V		Association for Perioperative Practice	Mass Casualty Programme	NeuroTrauma Rehabilitation 1 Programme	
Plenary	Lessons Learnt from the Earth Quake in Nepal	Lessons Learnt from A Medical Prospective 2015 Rugby World Cup	Subspecialty PHEM — where next?	Ryan Lecture	
Workshops	Haemorrhage control	Pre-Hosp Ultrasound, EZ-IO etc	Pre-Hospital Ultrasound Extrication	Ultrasound	Regional anaesthesia in trauma
	Poster Competitions	Poster Competitions	Poster Competitions	Poster Competitions	Poster Competitions

Kim Matthews Trauma Care Administrator - Phone: 07740 287328 Email: Traumacareadmin@uhb.nhs.uk
7th Floor Area 4 Trauma Care Admin Office, Queen Elizabeth Hospital Birmingham B15 2WB



CASUALTY CARE CERTIFICATE ASSESSMENT 2016

MIKE GREENE MREW MEDICAL OFFICER

In the last edition I outlined the principles guiding potential change in the MREW Casualty Care Certificate Assessment. The review group presented a number of options to the MREW Medical committee which were circulated to teams for comment before the meeting in November 2015. As a result of this consultation, the following changes have been accepted and will become part of the assessment process from early in 2016.

METHOD	DESCRIPTION	CHANGE	WHY CHANGE
MCQ 'KNOW HOW'	Paper containing 40 questions of 'best answer to each stem'. Pass mark 60%.	No change. But all questions have been reviewed. Papers MUST be returned to the exam coordinator.	Questions reviewed to ensure fit for use in current syllabus and up-to-date knowledge.
TRAUMA SCENARIO 'SHOW HOW' 'KNOW HOW'	One 15-minute clinical scenario based on a trauma scenario.	No change to basic framework or in requirements.	Introduction of a helper is more authentic to MR practice where solo practice is unusual.
	Focus on: Safety, primary survey, initial patient management, decision making and incident management.	The examinee should have a helper to assist in management. Criteria based assessment with notes for examiners.	Current system based on subjective numerical scale. This change improves reproducibility, is more transparent for candidates and easier for examiners to maintain consistent standards across the organisation.
MEDICAL SCENARIO 'SHOW HOW' 'KNOW HOW'	One 15-minute clinical scenario based mainly on a medical emergency.	No change to basic framework of assessment.	See comments above.
	To include 2/3 short clinical tasks (Clinical assessment skills, treatment skills, drug admin etc).	Each task to have criteria-based guidance notes for examiners.	This (mini OSCE) 'structured task' approach allows sampling of a number of essential competencies in the syllabus and improved overview of candidate performance.
	Return of practical test sheets.	Both practical test assessment sheets to be returned to exam coordinator (like the MCQ) at end of exam.	Improves assurance and allows analysis of performance against criteria to help improve education and training.
TASK BOOK 'SHOW HOW'	A simple task book to demonstrate that all candidates have completed the required range of core skills in the six months prior to attending the examination.	New requirement, but a simple extension of the verification now used for BLS. Core skills will be from the current syllabus. Sign off by local trainers — suitability is the responsibility of the MRT.	The practical scenarios are not designed to test a wide range of skills. These skills are, however, essential for the practical delivery of care and this low cost and simple methodology provides a flexible tool for verification.
		Six month period chosen to reflect the known period of skill decay and three-year recertification period. This will be phased in during the first six months of 2016 but we hope all teams will start to record training of Casualty Care competencies as soon as possible.	Improved assurance of training.

- MREW Casualty Care examinations must comply with the current rules and regulations.
- The date of practical examinations must be notified to the MREW Medical Officer: medicalofficer@mountain.rescue.org.uk
- Examination materials are obtained from John Dutton: drjsdutton@gmail.com
- MCQ and Practical examination papers are returned to John Dutton: drjsdutton@gmail.com
- If these are not returned certificates will NOT be issued.
- Certificates are obtained from John Saxton Casualty Care Registrar: mrcregistrar@btinternet.com

Contacts are available in the Casualty Care rules and regulations accessible on the MREW website Resources/Medical.

RISKING LIFE AND LIMB

Fifty years of mountain rescue in the Ogwen Valley

Throughout 2015 and into 2016, Ogwen Valley Mountain Rescue Organisation has celebrated their fiftieth anniversary with creativity and enthusiasm. What with a Grand Dinner, a lovingly revived 'Ogwen raft race', a Black Tie dinner on a breezy Tryfan, Hawaiian shirts and inflatable palm-trees for an even breezier beach party by the lake, the spectacular Tryfan Skylight and a 300-page book commissioned, nothing was too ambitious. It was a fitting celebration for a team which has made it their fifty-year mission to innovate, develop and improve the delivery of mountain rescue to those who need it, in one of the harshest environments in Snowdonia. **Judy Whiteside** takes a look at how they developed into the team they are today.

The story of Ogwen Valley Mountain Rescue Organisation reaches back to the late-1800s, when the main rescue centre for the Ogwen Valley was Idwal Cottage. Things changed when the Climbing Club moved their rescue kit to Ogwen Cottage, where the formidable Mrs Williams was in charge. Her parting words of advice, in case of a call-out, were unequivocal. 'Fire a red flare from the car park — get the climbers together and put the one with the cleanest boots in charge!'

Then, in the late-1950s, three young mountaineers began hatching a plan to set up their own mountaineering school and the seeds of today's team were sown. The idea of a private school began while Anthony Mason-Hornby, Ron James and Trevor

the Nant Francon Pass to signify that someone was in trouble and 'call' the three 'leaders' back to base.

Sadly, financial pressures led to the sale of the school to Birmingham Education Authority, in April 1964. Tony Mason-Hornby and Ron James remained in charge, with James as warden and chief instructor, and Mason-Hornby as senior instructor. The agreement was that the rescue team would continue and from then on, the number of team members would grow significantly.

With new ownership came many changes, not least that the instructors could now enjoy the same school holidays as other education providers. The long six-week break provided the glorious opportunity to explore mountains

RAF, was insufficient. What Ogwen needed was continuous mountain rescue cover, delivered by an independent group of rescuers available throughout the year.

When the hastily gathered rescue party arrived, Glews was unimpressed by their lack of skill and attempted to tell them what to do even as he lay on the stretcher. He was so badly injured that when colleagues visited him in the orthopaedic hospital at Gobowen in Shropshire, he was still in intensive care. They resolved there and then that the need for a permanent rescue team was a priority.

By autumn 1964, that team had been conceived, guided by James and Mason-Hornby. It would consist of a number of team leaders, mainly the instructors from Og Cott, with a pool of skilled rescuers at their disposal, on call round the clock and it would be an entirely voluntary enterprise.

The inaugural meeting of the Ogwen Valley Mountain Rescue Organisation was in March 1965 with Mason-Hornby in the chair, James as senior team leader and his then wife Barbara as secretary.

During the next five years — indeed, ever since — the team continued to experiment with kit and ways of doing things. There would be experiments with a split Thomas stretcher, developments with radios and collaboration with Plas y Brenin and Glenmore Lodge to refine team member skills. A significant change came with the arrival of Dr Ieuan Jones at the Caernarfon and Anglesey Hospital in Bangor, where he worked as the senior accident officer. Like Wilson Hey before him, he realised that the skills of mountain rescuers, and the treatments they could offer, were inadequate for the bigger emergencies they might face and set about improving them — often by exposing team members to the shocking reality of trauma.

They were interesting times, to which hindsight lends a wry humour, as Chris Lloyd explains. 'In May 1965, OVMRO purchased a small caravan for £5 which was sited at the rear of the Cottage. But it wasn't long before eagle-eyed authorities thought its presence might encourage travellers and the council ordered the caravan to be removed — an exercise which cost more than it had to purchase it!'

'In February 1966, Birmingham Education



Above: Early image of Bryn Poeth © OVMRO. **Right:** Cover illustration for 'Risking Life and Limb', showing the mighty Tryfan with Bryn Poeth facing © George Manley.

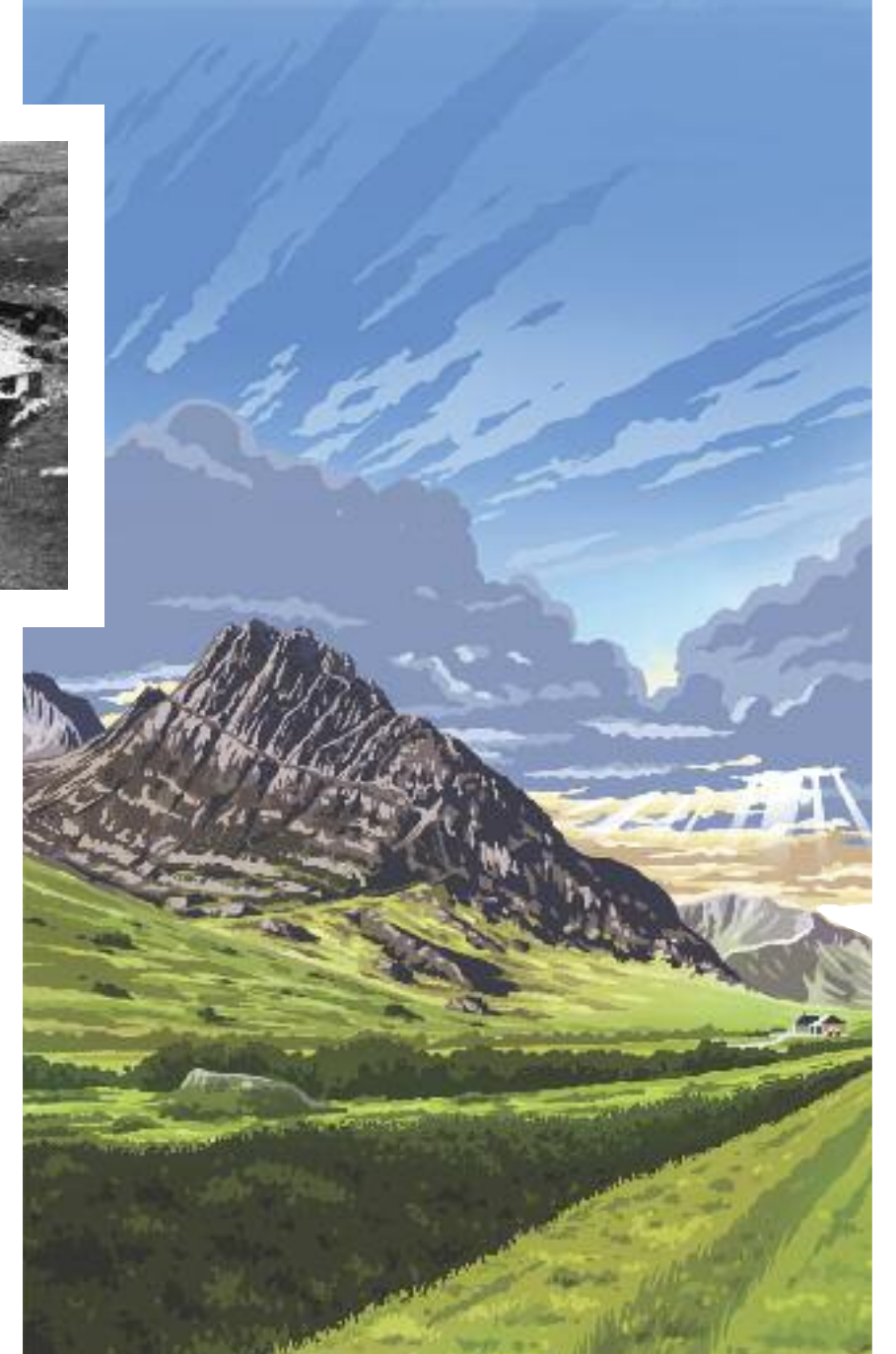
Authority kindly dedicated a room (the old generator room/garage) to mountain rescue. However, there were strict rules about use of this room; no overnight stays and certainly NO girlfriends or women permitted, at whatever time of day or night! We can only speculate whether any girlfriend or wife ever actually harboured a burning desire to spend any time in said generator room/garage.

Long-standing members Roger Jones, KC Gordon and Neil Adam have been involved since the Ogwen Cottage rescue team days. Roger Jones recalls how Mason-Hornby's Roll's Royce would be pressed into service, often taking team members away from their pints at the Douglas Arms in Bethesda to go rescue someone. As an 'ambulance' it certainly seemed better from a casualty's point of view than being slung in the back of a coal truck! 'The boot folded flat,' adds Neil Adam. 'The stretcher stuck out a bit but we could slide it in and two people would sit in the back holding onto it'.

The school's first five years set a template for the innovative, forward-thinking team that Ogwen continues to be. At the time of the team's Silver Jubilee in 1990, Ron James recalled that the team 'got hold of a film of rescue in the Alps by Mariner and practised, for the first time in Britain, many of the improvised techniques now very much part of guide and instructor training'. There was also a Tragsitz from Austria, a Perche Barnarde from Frenco in Grenoble and later the Mariner stretcher and wire lowering gear.

The methods of calling out were varied. There were no telephones to speak of. The local 'bobby' would go round knocking on doors, gathering known volunteers. KC Gordon tells how news of an injured climber frequently disrupted his Saturday evening plans, 'just as we were heading off to Bangor to chase after the college girls!'

Og Cott served the team well, but they quickly outgrew the space. When Birmingham Education Authority revealed plans for an extension which meant the loss of storage, fundraising began in earnest for an 'Oggi base'. Whilst they had already begun looking at Bryn Poeth as a potential home, in



Right: Tony Jones as 'casualty' in Tragsitz rescue practice at Plas y Brenin, carried by Steve Farrow, voluntary instructor at PyB © OVMRO.



the short term, the team's only choice was to move into the generator shed behind the old school at the back of Idwal Cottage, courtesy of the Youth Hostels Association. It was a space which afforded even less room than before. There was barely room to stand upright and served only as a dump — in more ways than one — but it would be 'base' for two years. Some repair work was required but, by August 1975, it was weatherproof and team kit was relocated from Ogwen Cottage to Idwal Cottage and the garages of team members Tony Jones and Roger Jones.

Meanwhile, Bryn Poeth, once employed as the Water Bailiff's cottage, stood empty. Owned by the National Trust, it was a primitive building but the location was ideal, just 200



Above left: Roger Jones and Ron James © Ken Wilson. **Right:** Ron James with the Mariner stretcher © OVMRO.



Jones were climbing in Snowdonia. They were convinced that many climbing accidents could be avoided if climbers were properly taught and advised and, in spring 1959, they had each resigned their 'comfortable' jobs to realise their vision.

'Og Cott', as it would become known, opened during Whitsuntide 1959 and quickly gained a reputation for excellence. By August, it had become the first privately-owned school to be granted official recognition as a mountain rescue post, the first fully-manned post in Wales. Notices were posted in hostels, hotels and police stations in Snowdonia, informing people what to do in an emergency: a two-starred red flare would be fired to break high above

further afield. During that first summer, when most of the instructors had fled to the Alps and the RAF Valley team were training elsewhere, an accident happened which had a significant effect on how mountain rescue would be delivered in the valley.

John Glews was left to 'house-sit' at Og Cott for the summer, with instructions to call Plas y Brenin if necessary. While he was attempting a new route on Clogwyn Ddu, a crag at the top of Nameless Cwm above Idwal Slabs, a peg came out and he fell. He was, says Ron James 'badly smashed up'. Someone ran for help but whilst he was waiting, it occurred to Glews that the current rescue service provided, dependent as it was on the availability of Og Cott staff and the



@DEAR EDITOR

I read with great interest the article, 'Search Management the Initial Response', in the Summer 2015 issue of 'Mountain Rescue'. As a former RAF pilot with search and rescue experience, including protracted overwater searches, whilst flying the BAe Nimrod maritime patrol aircraft and, more recently, as a police pilot involved in land-based search and now the chairman of the UK Civil Air Patrol, the subject of search management remains close to my heart.

In my world of aerial search the probability of detection (PoD) is a direct result of the coverage factor (C) which, in turn, is dependent on the sweep width (W), the area searched on each side of the aircraft, and the track spacing (S), the distance between the successive tracks flown by the aircraft as it methodically searches a given area. Ideally, the coverage factor, 'C' should always be one, or greater when the sweep width (W) is divided by the track spacing (S).

Generally, with a sweep width of one mile, half a mile on each side of the aircraft, and a track spacing of one mile the coverage factor will be one. If the track spacing is tightened to half a mile then a sweep width of one mile, half a mile on each side of track, will give a coverage factor of 2; one divided by 0.5. In an overwater search a coverage factor of one will give a probability of detection (PoD) of 80%. If the same area is searched twice the PoD will increase to 90% and after three searches of the same area the PoD will increase to 99%. However, the target must be in the area that is being searched and it must be visible to the observer in the aircraft!

Land-based searches are much more complex and in these circumstances it's much better if the aircraft searches open ground quickly whilst the search party on the ground concentrates on those areas, woods and gullies which are simply too difficult for the airborne observer. The preferred search patterns used by the crew of the aircraft will be a 'track search' which follows the route of the missing person(s), a 'line search' following, for example, a river or a beach, or a 'grid search' where the area to be searched is divided up into smaller, discrete packages. For example, individual fields or sectors to the north, south, east and west of a significant feature.

Does an aerial search, in conjunction with searchers on the ground make a difference? Absolutely, yes! In an experiment conducted by the Home Office, often referred to as the 'O'Donnell Theory' an area of one square mile in open heathland was searched by an aeroplane, a helicopter and a ground party of twelve police officers. The aeroplane took 20 minutes to find the targets, the helicopter took 12 minutes and it was estimated that to complete the search would have taken the ground party 450 man-hours. Subsequent analysis showed that although a ground search could be 100% effective, an aerial search is much, much quicker and, in the right circumstances, is between 90 and 100% effective. The ideal is, of course, to conduct both searches, air and ground, in cooperation.

Tony Cowan MBE
Chairman and Regional Coordinator (North)
UK Civil Air Patrol

It's rare we receive a letter which provides such a great opportunity for debate and further work, but this one did. Pete Roberts responds to Tony's email:

We were very pleased, on several counts, to receive Tony's reply to our article. It fulfilled one of the purposes of writing the articles: to stimulate some thought, debate and discussion.

We do not disagree with anything Tony writes and indeed would strongly support his views when he says that 'land-based searches are much more complex...'. However, we do not believe that this necessarily has to be the case and a recent paper by Perkins (2013)¹ clearly demonstrates the use and application of search theory to land-based situations. (see my article in Issue 53, Summer 2015).

As a result of the letter we've had three very productive meetings to discuss ideas and, in 2016, will jointly undertake, with the Civil Air Patrol and Northumberland National Park MRT, some research into the search capabilities of different assets – fixed wing aircraft, UAVs, ground search teams and dogs. It will be based on the piece of work referred to by Tony which was done in 1987, a copy of which can be found on searchresearch.org.uk.

It will be interesting to compare the performance of ground search teams in 2016 with that of 1987 in the light of work done by the Centre for Search Research on search skills and the concepts of Critical Separation and Purposeful Wandering. A main difference of our research, from that of 1987, will be that we will use 'live' subjects so search dogs can also be used in the 'trials'.

An interesting and worthwhile project, so many thanks to Tony for taking the time to write and to meet up with us.

¹Perkins (2013) Probability of Detection for the Search Manager – www.searchresearch.org.uk

PETE ROBERTS IS MEMBER OF NORTHUMBERLAND NATIONAL PARK MRT AND FOUNDER, WITH DAVE PERKINS, OF THE CENTRE FOR SEARCH RESEARCH (TCRSR).



Above: Blue Alex, temporary 'base' during the renovation of Bryn Poeth © OVMRO.

yards from the main road with space to land a helicopter behind. And so began a long and tortuous road to acquisition and refurbishment, via costly legal wrangles and often in the face of strong opposition from some quarters of the local community. The Snowdonia National Park Society, led by Esmé Kirby, and Chris Briggs (who led rescues from the Pen y Gwryd hotel) believed there to be no need to base a mountain rescue team in the Ogwen Valley. They objected to the National Trust applying for planning permission to turn the building into a mountain rescue base.

In 1975, planning permission was granted. The National Trust refurbished Bryn Poeth and, on Sunday 2 October 1977, the team moved in. The original proposal had been for full occupancy but the agreed lease only allowed for use of a small operations room at the front of the building and a small, newly-constructed lean-to shed at the back, for use as a store. There was no facility for the team to use any other parts of the building except in an emergency. In fact, the remainder was available to the National Trust conservation parties.

The electrics were hit and miss, there was neither heating nor hot water — just a cold water tap out the back. A kitchen sink and two toilets were located in the current kitchen but accessed from an external back door. There was a potato patch some two metres below the existing car park and room for two 4x4 vehicles in front of the building. Nothing else could get up the track. Parking was limited to the grass verges of the A5. It was primitive. But it was home.

As the years passed, it became increasingly evident that Bryn Poeth was unfit for purpose. Clearly suffering the ravages of its harsh environment, it was cold. Very cold. So cold, 'there was more chance of getting hypothermia in Bryn Poeth than there was on the Carneddau'. Renovation would cost £55,000. The accounts held just £3,000. And thus began three years of fundraising.

By February 1989, planning consent had

PAGE 53



been granted, full working plans had been drawn up and the team was in a position to start work, but not before another round of musical chairs with the local planning department. By Christmas, the keys were back with OVMRO. Totally gutted, Bryn Poeth had doubled in size, there was a new kitchen, two showers, wash basins, two toilets, a new electricity supply, hot water and radiators. And the potato patch had become the car park. At last, a building fit for use and one to be proud of! On 12 May 1990, the new base was formally opened by Bob Borradaile, the Master of the Worshipful Company of Drapers of London.

The team had made huge strides forward, but there were still a few hurdles to leap. The National Trust, impressed by the vastly improved facilities now available at Bryn Poeth, decided it would be ideal as accommodation for their Acorn holidays. It was a further two years before an agreement for shared use was made, but it wasn't easy having a building that served two purposes. For the next fifteen years or so, all those hard-working footpath builders and conservation workers risked being woken up in the night by team members on a call-out!

The Trust eventually backed out because the property no longer suited their use (although they do still own the building), and the lease was renegotiated when OVMRO became a charitable incorporated organisation in June 2015.

Despite being forced to share their space, Ogwen continued to invest heavily in Bryn Poeth. In the late 1990s, transport options were limited. Team members were forced to make do with Tony Jones's own vehicle during rescues. That, or share the backs of Land Rovers with bales of hay, whilst the local farmers transported them up the mountain. It was time to invest in a vehicle and, in January 1995, they took delivery of their first Land Rover Defender 110, at the cost of £18,000. So now they needed a secure, weatherproof home to house it in!

Cue yet more wrangles, this time with Sportlot who thought Ogwen's garage was outside their remit, despite — some might say — a clear connection with physical activity of the highest order. Not to be beaten, Ogwen set about challenging the decision. A good number of telephone conversations and some 350 letters later, Sportlot agreed it may be in their interests after all and offered £17,500, including VAT, towards the £40,000 project to not just build a garage, but refurbish and convert the loft space.

'During the work,' says Chris Lloyd, 'we realised that if we called it an annexe rather than a garage, it would be zero-rated for VAT. We duly informed Sportlot, only to be told we'd now be receiving just £14,000 towards the garage!

'Then, shortly afterwards, they advised us we had been overpaid by a thousand due to the grant being given as a percentage of the overall project and that by saving the VAT, the percentage was effectively reduced and we owed them a thousand pounds!'

This seemed somewhat unfair and a meeting was called.

'It was a memorable meeting,' recalls Lloyd. 'Feelings were running high. So much effort by so many and now this. At one point, one team member reached across the table towards the Sportlot representative, clearly intent on making the man see sense, before being swiftly reminded we might need them again! But he had a good point — we'd saved three thousand pounds on the project and now they wanted a thousand back!'

Work on the new garage finally began in September 1996 and, the following May, the garage and loft extension were officially opened.

Oggi base and the Oggi team themselves remain a work in progress, as the team adapts to the ever-increasing demands for their assistance — both on the mountain and in the swiftwater environment. It's a story with which every single team is familiar. What began as a local resource, catering for the needs of a very specific section of society, is now a fully-fledged 'community resource', sometimes called to work far outside the bounds of North Wales (notably, in the December floods, in Carlisle and York).

But it's safe to say that, over fifty years, Ogwen team members have been instrumental in driving forward standards in casualty care, swiftwater rescue, technology (SARCALL and SARLOC), training, rescue rigging and equipment design which have spilled into the national consciousness. They've developed a thriving model for support membership with their 'Treble Three' group, they've offered themselves up for audit and inspection (long before the idea of peer review really took hold), and they've continued to exchange ideas with experts and teams from around the world.

Their anniversary book, 'Risking Life and Limb', was launched in late December 2015. Written and designed by Yours Truly, it carries a foreword from HRH The Duke of Cambridge, who often worked with the team during his time at RAF Valley, and is beautifully illustrated by George Manley. It's available to buy from the team via shop.ogwen-rescue.org.uk and it's chock full of stories. Yours for just £18.50. ●

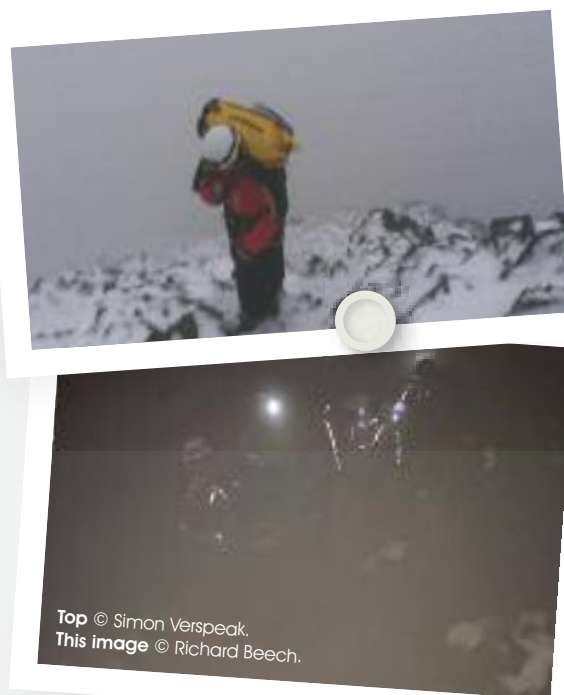


JANUARY: NEW YEAR'S DAY DRAMA ON CRIB GOCH IN STORM FORCE WINDS

Llanberis team members defended walkers from 'selfish idiots' jibes online following the incident, in which the three men had got caught up in near storm-force winds.

The team said the walkers 'were neither selfish nor idiots' for trying to climb the mountain, posting on Twitter that 'venturing out in challenging conditions is how we learned our trade. That's why we don't criticise and, to be fair to the casualties, the weather came in much sooner and stronger than predicted. They were just walkers caught out in very difficult weather.' The incident was called in twice by the same party, who had been split up. Three walkers had climbed the east ridge of Crib Goch before attempting to descend the north ridge. Snow and ice prevented two of them from proceeding. The third walker was able to descend a short distance before he fell fifty metres. Eight team members set out to find and recover the group. Fortunately, the fallen walker was able to walk down to a point where he could be assisted to a team vehicle. Team members searched the east and north ridges for the other two then rigged a roped system to evacuate them in the severe winds. All three hypothermic walkers were then brought back down to the team's base in Nant Peris.

WWW.FACEBOOK.COM/LLANBERISMRT





NOVEMBER: S-92 STAYS LONGER THAN ANTICIPATED IN THE DALES

CRO had an interesting call to deal with when one of the newly-commissioned Sikorsky S92 helicopters found itself marooned on their patch for five days.

The team had originally requested help from the helicopter when they were called out to a walker suffering chest pains on Ingleborough. The Caernarfon-based aircraft flew to an RV close to the fell in the Yorkshire Dales to discuss the incident with CRO controllers and then attempted to take off and reach the summit of Ingleborough. Weather conditions were wet and very windy, which may have caused a fault with the helicopter which then developed a strong vibration and couldn't take off. The helicopter was on sloping ground and slipped, tilting to one side. The crew radioed CRO for help and abandoned the aircraft which was in danger of rolling over. CRO brought in engineering equipment to secure the craft and ensured the crew were safe, and the fire service arrived with heavy duty kit. Meanwhile, team members made their way to the walker through high winds, rain, limited visibility and approaching darkness and stretchered him over steep ground to a team Land Rover. The helicopter remained in place for five days before team members finally waved a fond farewell to their unexpected guest. It was 'a sterling effort by Bristow's aircrew and engineering technicians and Lawson's Cranes, with a small contribution from ourselves,' noted the CRO Facebook page. The aircraft duly made it safely back to base. By its conclusion, the incident represented 246 hours of team members' time.

WWW.FACEBOOK.COM/CAVERESCUEORGANISATION



Images courtesy of CRO.

JANUARY: SPOOKY COINCIDENCES IN EDALE WITH THE FIRST CALL-OUT OF 2016

After a busy Christmas period, the team didn't have to wait long for the first call-out of 2016 and when it came there was more than an element of deja vu about it.

The location was Hell Bank Plantation near Beeley which, coincidentally, has now been the setting for the team's first job of the year for the past three years running (2014 and 2015 incidents occurring on New Year's Day). On Saturday 2 January, an injured mountain biker took a fall over the handlebars and suffered pelvic injuries whilst descending a track. East Midlands Ambulance Service HART team treated the casualty then team members were then able to carry him to a waiting land ambulance for transit to the Major Trauma Centre in Sheffield.



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DECEMBER: EVEN THE LEGO MOUNTAIN RESCUE TEAM SENT A CONTINGENT TO ASSIST WITH THE RESCUE EFFORT IN YORK



Image © David O'Sullivan



JANUARY: BUSY START TO THE YEAR FOR THE KESWICK TEAM

As Keswick recovered from the severe flooding in the town during December, it was back to the business of mountain rescue for team members as the new year got off to a busy start with three call-outs in very quick succession – two of them to Blencathra.

In the first incident, three males reported themselves lost to the east of Great End and, although they were equipped with torches, map and compass, they seemed unable to find a way down. The team suggested a direction in which to walk, where they would locate the path down to Seathwaite but, two hours later, received a further call that they were unable to find a way. At this point, a group of four team members and search dog Rona were despatched to locate them. They were discovered at Calf Cove Shelter at 11.30pm and walked down, arriving in Seathwaite at 12.50am.

Two days later, two male walkers tackling Sharp Edge on Blencathra slipped and fell into the top of the 'usual gully', one of them tumbling about twenty metres (65 feet). Although he had taken a bang on the head, he was able to scramble part of the way back up, but both then became cragfast about 4-5 metres from the top. The gully was rigged ready extract two casualties and they were assisted to the lower path. They were then able to walk off the ridge without assistance. Two very lucky walkers.

The four-hour rescue involved eighteen team members, seven of whom were immediately called into action again on Blencathra, when two people got into difficulties on steep ground after taking a wrong route. The woman and her partner became cragfast when trying to descend from the fell via Hall's Fell Ridge. Unfortunately the pair mistook what is locally known as the Parachute Route (the descent used by Bob Graham Round runners), for the top of the ridge and in descending it, found themselves in the very inhospitable area of Gategill. The pair were led to safety through the heather-covered scree back to the descent path, and then given a lift back to their car.

Top left: Descending Hall's Fell Ridge. **Right:** Search dog Rona helps the lost trio down in the dark. Images © Keswick MRT.

NOVEMBER: PDMRO CONTROLLER TAKES CAMEO ROLE IN PANTO

Derby deputy team leader and Peak District controller Martin Cavill made a cameo appearance in the Brailsford pantomime in November... Oh yes he did!

Earlier in 2015, the team had been called to Brailsford church bell tower to rescue a bell ringer who became entangled in the bell rope causing injuries to her arm and hip as she fell. The lady has now made a full recovery and, since the incident, the community and school have raised over £1000 for the team. But the icing on the cake was being offered a starring role in 'Jack and the Beanstalk'. The start of a glittering career treading the boards, we have no doubt.



Watch out, Martin! They're behind you!! © Derby MRT.



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STEVE HILDITCH MBE 1952 – 2015.

Derby team member Steve passed away in Derby Royal Hospital on the night of Friday 20 November following a year-long battle with cancer. On behalf of the team, **David O'Sullivan** looks back over Steve's life.

It was with great sadness that we announced the death of fellow team member and former team leader Steve Hilditch MBE in November. Steve was an inspirational man and a father figure to many people, both within the team and the wider community. His work with Mountain Rescue England and Wales and the Scout Association was publicly acknowledged when he was presented with an MBE in the Queen's Birthday Honours, early in 2015 and when, the

With an impressive thirty-four years of leadership, Steve developed Derby MRT into a professional, highly skilled and well-respected emergency service. Under his direction the team received many awards and commendations and attended major incidents including Lockerbie and Kegworth air disasters. It is a testament to Steve's leadership style that he continually attributed the successes of the team during this time to the hard work and commitment of his fellow team members.

From boyhood scout until his death, Steve played a significant part in scouting in Derbyshire, an organisation with close links to mountain rescue. His involvement also led to him saving and restoring for future generations a key part of scouting heritage: the Jam Roll. In 1929, Baden Powell was given a gift to celebrate the twenty-first birthday of scouting. Scouts around the world were asked to donate a penny per member towards a gift for Baden Powell. Sufficient funds were raised to buy a custom built Rolls-Royce car, known affectionately as 'Jam Roll', and a caravan known as 'Eccles'. After the Second World War, Jam Roll had to be sold by the family and went into private hands. Steve and a small team of volunteers raised enough money to purchase Jam Roll and not only restore it but ensure that future maintenance costs of the vehicle were secured: Jam Roll returned to scouting.

On 18 December, Steve's funeral service was held at Derby Cathedral. The service was attended by his wife Kim; family and friends; Derby team members past and present; colleagues from Buxton, Edale, Glossop, Kinder, Oldham and Woodhead teams; Derbyshire CRO; SARDA England; North Dartmoor SRT, MREW, Derbyshire Constabulary; the Freemasons; Scouting and Guiding UK; and, of course, Jam Roll.

When Steve stood down as leader, as a sign of respect and in appreciation of his hard work and dedication over the years, the team arranged several surprises including long service awards



All images © Derby MRT.

and a Royal Crown Derby Commemorative plate. They also wanted to create a 'Steve Hilditch Trophy' to be awarded to team members who show exceptional commitment to the team and epitomise the ethos of mountain rescue.

In secret, a few of the team, joined by Tommy Hornby from ASDA's 3DME service, erected a scaffolding system next to the team's giant statue 'Peat Grough', who stands impressively at over nine feet tall and weighs over 150kg. Tommy spent an afternoon attempting to capture the likeness of the giant with a handheld scanner. The result was unbelievable: a seven-inch miniature 3D representation of a nine-foot statue, complete with rope and climbing gear. Steve and Kim were presented with a trophy of their own and one will be held by the team to present to deserving team members — a fitting tribute to Steve who himself was a giant of a man in so many ways.



previous year, he was awarded the Scout Association's highest honour, the Silver Wolf, awarded for 'services of the most exceptional nature' in scouting.

Steve had been a member of Derby MRT for forty-seven years, joining in 1968, just four years after the team was formed. He took on the role of team leader in 1981, a post he held until the end of 2014. Although he had relinquished the role, Steve remained a team member and PDMRO Controller, the latter being a role he had undertaken since 1988.

Image © Patterdale MRT.



PATTERDALE TEAM MEMBER INDULGES IN A QUIET SPOT OF 'MONEY LAUNDERING'

Ray Griffiths has the unenviable task of collecting up the teams's donation boxes from around Patterdale. Quite a task for any team at the best of times but, post-floods it presented a whole new challenge: how to dry out the contents before banking them.

The box in the Tourist Information Centre in Glenridding survived all three attempts by Mother Nature to destroy this beautiful Lake District village but the cash inside was a little soggy to say the least. Cue Ray's ingenious 'money laundering' technique: one Lakeland rotary airer and one piping hot stove. Job done in no time and fivers duly banked. The team wants to say thank you to everyone who might have contributed to this particular box towards the end of last year — you can be absolutely sure your money is now safely with the team (not to mention spotlessly clean and crisply folded!)

WWW.FACEBOOK.COM/PATTERDALEMRT

WOODHEAD TEAM WIN WITH JEWSON

Having competed with over 2000 worthwhile community projects, the team secured a £1000 prize in late September, in Jewson's Building Better Communities Competition. The prize received will contribute towards essential refurbishment work to the Woodhead team's HQ.

Right: Woodhead chairman Brain Bailey and team member Gareth Lowe collect the award from Jewson © Woodhead MRT.



NEW TO THE MREW MEMBERS AREA

MREW Module 5 : MR Water Incident Manager Standard
and a whole raft of other stuff from water (pardon the pun!)

Team Members Legal Defence fees policy schedule
and related documents.

Hypothermia Guideline 2016
The latest version with guidance in respect to casualties with injury. Modifications in keeping with ILCOR 2015 guidelines.

Ambleside Medical Seminar 2015 presentations.

MREW Controlled Drug SOP 2015 Replaces 'Controlled drugs and the MRC (2008), Dr J Ellerton'.

First Aid Practice 2011
Revises the 2006 version and is current. Describes the three

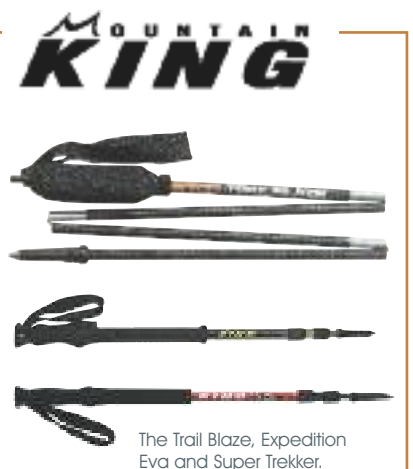
'levels' of care that may be practised by MREW members. Note that 'extended or advanced' care requires suitable governance arrangements.

Plus Documents related to November MREW meeting

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A TIME FOR CHANGE



DEPUTY CHIEF CONSTABLE GARETH PRITCHARD

The national policing lead for land-based search and rescue in England and Wales and vice chair of the Strategic Search and Rescue Committee for the UK outlines his thoughts on opportunities for the future.

Mountain rescue has a long and successful history. It provides a critically important service and is a valued partner to the emergency services. Numerous developments over the years have led to the highly professional organisation we see today with many skilled, committed and capable individuals providing a great service but also driving development of the teams. MREW has an excellent reputation. The teams merge seamlessly into the command and control structure when deployed operationally, however, the police service understands and respects the independence of the teams.

The demand on the police has changed significantly in recent years. Studies show that under 20% of calls to police control rooms now relate to crime, and increasingly much of the crime recorded has occurred online.

The day-to-day police work is increasingly focused on protecting the vulnerable in the community, be it protecting young people from child sexual exploitation, dealing with mental health issues, vulnerable people and missing persons, many in the urban environment. These changes, combined with austerity measures, mean forces are reducing in size and restructuring to accommodate the new challenges.

We have seen major changes in the Search and Rescue (SAR) world with the transition from the RAF SAR to the privatised Bristow fleet working under the Maritime and Coastguard Agency (MCA). In spring 2016 there will be another significant transition when the Aeronautical Rescue Coordination Centre (ARCC) at RAF Kinloss moves to the National Maritime Operations Centre (NMOC) in Fareham. Other major issues include the change from airwave communications to the emergency services network (ESN) being rolled out in the next few years. Technological advances provide new opportunities. We've seen the positive impact of SARCALL and SARLOC upon search and rescue work.

The mountains continue to attract more visitors with many seeking extreme challenges. The use of wilderness areas will continue to increase; initiatives such as the Welsh Government's Year of Adventure 2016 will drive the numbers seeking outdoor pursuits still higher. Some teams already face very high demand, an increase in mid-week call-outs and more urban searches. With so many changes it is an opportune time to have a conversation about the future direction of MREW in a land SAR context.

What steps can be taken to mitigate the increased demands on MRTs? One initiative underway in North Wales is to establish an Association of Lowland Search and Rescue (ALSAR) team in Anglesey to provide lowland area search and rescue assistance on the island, in liaison with mountain rescue teams. This will reduce calls for the MRTs and enable urban search to be resourced in differently.

Funding also remains a challenge. Some volunteer organisations have professionalised their funding structure gaining consistent

revenue to support their strategic development.

Within my role, I am vice chair of the Strategic Search and Rescue Committee for the UK chaired by Richard Parkes, Director of Maritime Operations, MCA. I have successfully proposed changes to the committee's terms of reference which focused on allowing the strategic committee to develop search and rescue capacity and capability across the country and deal more effectively with emerging needs. In September, Richard Parkes visited Ogwen base to discuss the challenges facing teams.

When I visits teams, I am always impressed with their commitment and determination to provide a good service, and recognise the importance of ensuring MR continues to be well prepared for the future. Earlier this year, I visited representatives from Cumbria at Kendal MRT base. I saw the strengths of the teams in the area and discussed with Richard Warren the work undertaken by the Forward Planning Group. The Lakes teams have developed strong relationships with their Local Resilience Forum (LRF) and clearly this is a valued relationship. The increased volatility of the weather has caused concern to communities and I know teams have provided critical support at key times in recent months.

In the summer, I addressed both the BCRC Conference and the ALSAR conference. Both illustrated the professionalism of the organisations and a drive to look to the future. I was interested to learn that ALSAR have been working with 02 to develop their strategy and I believe the use of external expertise in such situations has a positive impact.

MREW has been highly successful for many years, but organisations cannot stand still. I am pleased to hear about the changes being made. I believe we now need to consider how we can provide an improved service, designed to meet future demand. Other volunteer organisations have established strong nationwide structures, which allow them to engage on the national

stage with government and other agencies. I believe the working relationship between MREW and BCRC should be extended to ALSAR. This would appear to have merit giving a clear land SAR structure across England and Wales. This would have many benefits:

- Consistent land SAR service across England and Wales
- Engagement with partners and government



Left to right: Kate Bithell (NPCC Staff Officer, North Wales Police), Pauline Hallett (OVMRO), Gareth Pritchard (DCC, North Wales Police), Richard Parkes (MCA), Phil Benbow (NWMRA, MREW MITG & Llanberis MRT), Bill Dunham (MCA), Al Read (MREW Training Officer, OVMRO), Richard Warren (MREW FPG, LDSAMRA, Wasdale MRT), Paul Campbell (MCA). Image © John Hulce.

- agencies would be more effective
- Improved resilience to manage demand
- Specialisms could be developed and shared
- A stronger position to bid for funding
- More professionalised fundraising
- Coordinated preventative strategy to keep the public safe
- Efficient use of equipment
- Coordinated and efficient training
- Certain specialist back office areas could be managed nationally
- Effective national media strategy.

These opportunities will only be available if a coordinated, consistent land SAR structure is developed across England and Wales and work has already begun in this direction. We are at a time of change with new demands being made on many organisations and a tough financial environment upon us for many years. But such challenges can act as a catalyst for discussion about the future direction of search and rescue. There are great opportunities ahead to develop land search and rescue and I have met many capable people who want to be part of that evolution. I look forward to continuing the conversation. ●

Brief introduction to the British
Cave Rescue officers and how
to find them...

who?



CHAIRMAN: BILL WHITEHOUSE

chair@caverescue.org.uk

Represents cave rescue with Government, the emergency services, UKSAR and MREW, including fundraising and forward planning. A trustee of the Mountain and Cave Rescue Benevolent Fund and chairman of Derbyshire CRO.



VICE CHAIRMAN: DANY BRADSHAW

vicechair@caverescue.org.uk

Assists the chairman in his role and represents BCRC at MREW. Currently taking the lead on the team assessment process. He is chairman of SWERA and Warden for Mendip Cave Rescue since 1979.



SECRETARY: EMMA PORTER

secretary@caverescue.org.uk

Ensures comms between teams and BCRC, deals with external enquiries, currently involved with reviewing BCRC incident reports. Represents BCRC at the British Caving Association and lecture secretary for the national caving conference. Emma is the training coordinator of Midlands CRO and member of Gloucestershire CRG.



MEDICAL OFFICER: RICH MARLOW

medical@caverescue.org.uk

Advises on medical matters and keeps teams aware of medical issues of concern to cave rescue. Represents BCRC at the MREW medical committee and represents BCRC at UKSAR. Rich is a Mendip Cave Rescue warden.



TRAINING COORDINATOR: JIM DAVIS

training@caverescue.org.uk

Addresses national training needs and works closely on the team assessment process and represents BCRC at the MREW training committee. Jim is a member of the Cave Rescue Organisation.



EQUIPMENT OFFICER: MIKE CLAYTON

equipment@caverescue.org.uk

Liaises with MREW regarding the Government grant and runs PPE inspection courses for teams. Represents BCRC at the MREW equipment committee. Chair of Midlands CRO, he is a member of Gloucestershire CRG.



COMMUNICATIONS OFFICER: JON WHITELEY

communications@caverescue.org.uk

Seeks to enhance ICT for cave rescue and is BCRC rep to the MREW ICT committee and also PenMaCRA chairman. One of three MREW SARCALL administrators and a rescue controller for Devon CRO.



INFORMATION OFFICER & ACTING TREASURER: HEATHER SIMPSON

informationofficer@caverescue.org.uk or treasurer@caverescue.org.uk

Maintains contact details for the fifteen teams. Part of MREW fundraising group and also manages MREW collecting tins. Heather is a member of North Wales CRO and Midlands CRO and a new recruit of the Derbyshire CRO. As treasurer she manages finances and coordinates fundraising.



LEGAL ADVISER: TOBY HAMNETT

legal@caverescue.org.uk

A solicitor by profession, focuses on pragmatic solutions and believes in communication to ensure legal risk is minimised. If a case requires specialist knowledge outside his area of expertise he can assist in ensuring the right expert is identified.



DIVING OFFICER: CHRIS JEWELL

diving@caverescue.org.uk

Advises on cave diving issues and liaises between the Cave Diving Group and BCRC.



FOREIGN SECRETARY: PETE ALLWRIGHT

Represents BCRC at the European Cave Rescue Association and liaises with overseas cave rescue bodies.

INTRODUCING THE CAVE LINK

Communications are an extremely vital part of any rescue operation be it for a mountain or cave rescue team. Not wanting to take anything away from the surface comms – which I fully appreciate can at times be quite difficult – in general, this is much easier than when a rescuer operating underground requires to communicate with the surface.

For this to happen there are a number of options available, from the very simple method of sending a runner, although this can be very time consuming if the distance from the underground location to the surface is considerable. Passing verbal messages from one runner to another has its problems with Chinese Whispers certain by the time the message has passed through a number of people.

The laying of a cable through the cave or mine can certainly provide a direct link from underground to the surface. Over the years, this has been refined from original ex-military field telephones and ex-GPO headsets to, more recently, single wire earth systems of which the France Phone is a very good

handsets to be connected in very easily at any point along the whole length of the cable. Having a cable running through the system also provides a route marker for any rescuers who may be unfamiliar with the way. Laying out the cable and collecting it back up afterwards does take quite a bit of time and effort.

To eliminate the need for a cable, much work has been put in over the years to develop a communications system that would allow for voice transmission directly through the rock from underground to the surface. This came as a step on from the radio location beacons cavers were using to pinpoint locations in caves and mines when surveying the passages to enable a much more accurate underground-to-surface relationship to be established.

In Yorkshire, Bob Machin produced the aptly named Mole Phone and, in South Wales, Andy Bell produced the Ogof Phone, 'ogof' being the Welsh for cave. Both systems worked very well and through what can only be described as black magic (and certainly much too complicated to explain here) gave the ability for a rescuer to deploy underground and communicate with a surface station without the need for interconnecting cables, and through 100-200m of solid rock. In fact GCRG still has a working Ogof Phone set capable of working through 100m.

Further developments have taken place providing enhanced depth and performance, notably the Hey Phone, developed by John Hey, and then the Nicola Phone. With the latter, work is underway to complete version three and it is hoped this will be going into production and delivered out to the cave rescue teams soon.

However, an inherent problem with any of these systems has been the

considerable interference resulting from the low frequency they operate at – like listening to galloping horses and quite annoying after a time! I am aware that the latest Nicola Phone will be an improvement on this but I can't see that it will be eliminated completely.

So what else is there that can provide communications through the rock. I first came across a Swiss-developed system called Cave Link during a cave rescue training conference in Croatia in February 2013. I had been invited by Croatian Cave Rescue, who very kindly paid my travel and accommodation in exchange for a couple of presentations on SARCALL and an electronic T-Card system. I also attended, on behalf of the BCRC, a meeting of the European Cave Rescue Association in Zagreb. So it was a very full weekend.

During the Saturday, we were given a brief indication of Cave Link's capabilities. Purely a text messaging system with no voice (so no interference) it has a depth potential of two kilometre – very impressive. Another feature is that it can interface with surface mobile communications via a GSM Unit. Cost was not discussed but the suggestion was that it would be quite expensive. So to be honest I didn't think much more about it until January 2014, when I received a call from Brian Jopling of the South and Mid Wales CRT, inviting me to a test of Cave Link that was to be held in Charterhouse Cave on Mendip.

This was the first time I'd seen an actual unit and I was instantly impressed by its compactness and quality. Brian gave a brief explanation of how things worked then it was off to the cave for a practical exercise. Two units were



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The Cave Link in action © Andy Harp.

example used by many teams including my own. These systems can be run over many kilometres of wire and are very effective, allowing

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deployed underground and one on the surface. I was with the second unit which did not go as far into the cave as the first and I continued to be impressed by how simple the equipment was to set up and operate. I had taken my video camera and filmed this process which can be seen via [youtube.com/watch?v=xKfF_K6mCBw](https://www.youtube.com/watch?v=xKfF_K6mCBw). A second video showing the units in use in Miss Grace's Lane cave in the Forest of Dean can be found at [youtube.com/watch?v=7WYUmULfS1g](https://www.youtube.com/watch?v=7WYUmULfS1g).

The units are approximately 125mm square and 45mm deep. They have a small display screen and are equipped with a QWERTY keyboard. Operation is simple. Deploy two antenna cables, attach earthing plates, test the quality of the earthing, select new message and which unit you would like to send it to, type your message and then send it. In reality, there is a bit more to it than that but not much.

During this initial test, not only were we able to send messages to the surface set and they to us, we were able to send a message to the unit that was further into the cave horizontally from our location. All of which was achieved without the 'galloping horses' and if you left the unit you would not miss a message as it sat in the inbox. Overall, everybody was very impressed with the results. The down side being that each end was around £800. So not a cheap piece of kit.

Despite this, I arranged with Brain for the units to be made available to GCRG to test in the Forest of Dean. Again, overall, this proved to be very successful and everybody who used the units commented on how easy it was to set up and operate. Further trials were held in South Wales and then the units made their way up to Yorkshire where both CRO and Upper Wharfedale cave rescue teams carried out trials.

Within GCRG we were keen to go down the route of obtaining some units but the cost put them out of the frame. However, for those of you who read about it in the last MR Magazine GCRG received a very significant donation of £5000 from one of its members. Part of the condition of that donation was that £3000 be used to purchase Cave Link, so GCRG placed

an order for four units but it was decided not to purchase the GSM unit, partly due to the cost being equivalent to another unit. We also learned that South and Mid Wales CRT were planning to order Cave Link and that they would be purchasing the GSM unit. Mendip Cave Rescue also placed an order for three units and a GSM, so there would be one relatively close by if required.

The GCRG units arrived in time to be demonstrated at the BCRC Conference and also used on the training event. This subsequently led to Scottish Cave Rescue ordering three units and I understand that CRO have ten and Upper Wharfedale nine units. So this now makes six UK teams with Cave Link.

The units can be set up to route in a variety of different ways from simple one-to-one to more complicated configurations where one unit acts as a relay to the next and so on till it reaches the last one. All units are the same so even a unit that has nominally been allocated a surface roll can be deployed underground and, of course, the applies.

In the past, GCRG has worked alongside both South and Mid Wales and Mendip teams on large rescues both within its own area and in providing assistance to those teams in their respective areas. With all three now having Cave Link the GCRG and S&MWCRT units have been set up to allow them to work together in one large network should the need arise. Mendip has all the details to enable their sets to easily be programmed accordingly so they can join the network.

Cave Link doesn't provide all the answers and there will be some who still prefer to speak to somebody rather than text. However, it does provide another excellent string to the bow that will help rescuers keep in touch and enhance their response.

This is a very brief insight into Cave Link. If you'd like to know more, please watch the videos and contact the GCRG chairman via chairman@gcrg.org.uk.

cave news



Cave Rescue Organisation images from their 'day trip' to York courtesy facebook.com/CaveRescueOrganisation.



CAVE RESCUE APPEAL TO FELLOW CAVERS AFTER 'FLOODS UP NORTH'


The extensive flooding in the north of England in December saw cave rescuers from all corners of England and Wales working alongside their mountain rescue colleagues to support the rescue effort.

South west-based Mendip Cave Rescue has since set up a special fund to help other cavers who volunteered during the devastation in Yorkshire, Lancashire, Cumbria and the Scottish Borders.


A spokesperson for Mendip, the second-oldest cave rescue group in the UK, said, 'Over the years we've enjoyed the hospitality of fellow cavers, and access from landowners to the many caves 'up north'. So come on, dig deep and let's raise much needed funds to support the volunteers with such things as necessary equipment and clothing.'

The organisers are asking cavers to come up with their own fundraising ideas — throwing in a few of their own such as auctioning off caving stuff, books, prints, paintings and surplus equipment, or putting on a Pie 'n' Peas or Bangers 'n' Mash evening — adding that £10 will buy a pair wellies, £25 a length of rope, £50 a tackle bag and £400 a drysuit.


The appeal will run until the end of February when they will review the situation. Donations, will be channelled through the British Cave Rescue Council, and can be made either by cheque or Paypal. See mendipcaverescue.org for details.




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