

See, there was this big rock...

Kevin Vranes and Jake Entin

Ever read Aron Ralston's story, Between a Rock and a Hard Place? Ralston was canyoneering in western Utah when he dislodged a boulder and plummeted into a slot canyon, taking the boulder with him, which pinned his arm against the wall of the canyon. After days of agony and a hard realization that help would be very long in coming, Ralston decided his only option was to cut off his own arm below the elbow to free himself.

If you have an active imagination and some spare time, you could play a stimulating round of "What If?" with yourself. What if it happened to me? What if I didn't have a knife? What if the rock fell on my leg instead?

Andrew Chapman doesn't need to imagine anymore. On May 3rd of this year, Chapman was bouldering in the Flagstaff Mountain area when he pulled a very large piece of rock off a 15 ' tall boulder. Chapman fell backwards under the weight of the rock and landed in a sitting position with his back against a tree. The detached piece of boulder came to rest on his right leg—pinning it against another

rock; Chapman was trapped with absolutely no way to free himself. Luckily, as Chapman fell, he was able to prevent



Photo: John Keller

the rock from falling directly on his body, which would have likely crushed him. With only his leg pinned, Chapman was still able to breathe and did not suffer any additional injuries.

The key differences between Chapman's story and that of Ralston's are where the accidents occurred, and who knew about it. Ralston had told nobody where he was going and was in a slot canyon so far remote, there simply was not anyone near who could hear his screams. While Ralston had to rely on his own dull knife to free himself, Chapman was in the "front country" and was bouldering with a friend in a popular area. Within minutes, a team of 20 rescuers from RMRG, many Boulder Fire Department firefighters, City Open Space and Mountain Park rangers, and AMR paramedics were busy working to free Chapman. He was a lucky man.

Upon arriving, rescuers from all agencies quickly began working together to formulate plans to move the boulder and free Chapman. This was far from a typical, "standard" problem for RMRG, Boulder Fire, or anyone else there. For one thing, the weight of the boulder was estimated to be upwards of 1,800 lbs. Typically RMRG tries to keep working loads under 1,000 lbs., or to

otherwise stay within a 4:1 safety factor. In other words, the weakest component of the system should be at least 4 times stronger than the maximum force expected during an operation. However, technical field team leaders in RMRG train extensively in how and when to stretch these parameters safely. If the system was not designed carefully, moving this rock was likely to put RMRG's equipment near the 4:1 safety factor. Additionally, while RMRG works with many other agencies throughout the county, rarely do we mix technical gear systems from varying agencies on the same operation—something we did do on this rescue.

In the end, an elegant solution was employed combining both RMRG and Boulder Fire's equipment: to lift the rock off of the patient's leg, an RMRG steel cable, tensioned with a hand-powered rope haul system was used in conjunction with Boulder Fire Department's gasoline powered, portable hydraulic ram.

Additional rescuers and wood cribbing were also used to ensure the boulder did not shift and cause further injury to the patient or rescuers as it was lifted. The multi-agency crew completed extrication just an hour after the call came in, and then performed a short scree evacuation to carry the patient to an awaiting ambulance for transport to a hospital. Chapman could not have been happier to be free after what could only have felt like an eternity.

The venerable Bill May, with 40+ years in RMRG, made a final comment: "These were the highest forces that I ever recall on a real mission."

Thanks to some amazing teamwork between Boulder Fire and RMRG, Chapman is walking today and recently completed a 12-mile round trip hike in Grand Teton National Park. We wish him a continued recovery and many more days playing outside, free from being pinned down.

Member Profile: Cris Benner

Katie Johnson

Driven by a desire to live in an outdoorsy, healthy, bike-friendly city without too many people or cars, Cris Benner and his wife Dana moved to Boulder in 2010. He wasted no time in joining RMRG, beginning to train with the team as soon as he arrived and becoming an official member a year later. That should come as no surprise, given that "RMRG was one of the primary reasons for moving to Boulder," says Benner.

Search and Rescue (SAR) had been part of Benner's pre-Boulder life, and he is one of the few current members who has served on an active SAR team



Photo: Dave Christenson

elsewhere prior to joining RMRG. giving him a unique perspective. Benner was a member of the Bay Area Mountain Rescue Unit (BAMRU) in California for four ears prior to moving to Boulder. When asked to compare the teams, he said "The most significant

commonality between the two teams is the quality of its personnel. In my experience, both BAMRU and RMRG are made up of volunteers who are committed to something bigger than themselves, to helping those in need, wherever they are and in whatever conditions they are in, all without pay and without expecting formal recognition. In addition, there is a strong culture of camaraderie, curiosity, adventure, and humor in both teams." Though there are differences in the unique systems used, both RMRG and BAMRU are fully accredited under the Mountain Rescue Association (MRA) according to each region's re-accreditation procedures.

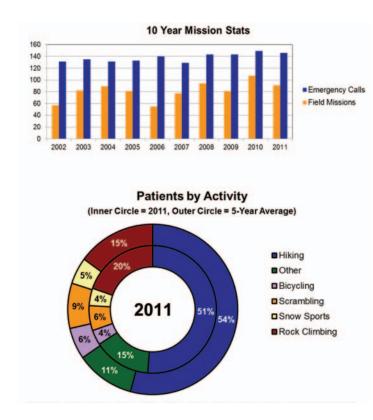
When asked about his most memorable mission. Benner did not hesitate to name Mission #69 in 2011, which involved a fallen climber in Eldorado Canyon State Park. Although not necessarily unusual for RMRG, it represented fulfillment of a long-time dream for Benner. He writes, "As I mentioned previously, for years I had wanted to live somewhere where I could be going about my daily business, the pager goes off. I race off (at the speed limit) to the rescue, take care of business, and still have time afterward to be with my wife or friends...I was near Valmont Butte and the pager went off...I get to Eldo, throw on all my gear, help an injured climber, get him loaded in the ambulance, head home, and barbecue some food later. I know it sounds really basic, but it was something that I had craved for years. I had a big smile on my face that

Volunteering for SAR is extremely rewarding, but does not pay the bills. Fortunately, Benner's day job as a Physician Assistant at Boulder Community Hospital makes a nice complement to mountain search and rescue. Unsurprisingly, he enjoys spending time outdoors in whatever free time remains.

Mission Statistics

Steve Dundorf

Our 2011 mission volume increased the 5-year average again with 146 calls for assistance and 91 field missions.



Help Support Our Mission

Please consider the **Rocky Mountain Rescue Group** in your Year End Donations!

We depend on your generous donations for 30% of our annual operating budget. Without your help, we couldn't be there when needed. Thank you.

www.RockyMountainRescue.org/fundraising

Upcoming Events

In addition to our regularly-scheduled Wednesday meetings and Sunday practices, which are open to the public, our annual winter activities include:

RMRG at the Walnut Brewery



Join us for the ever-popular annual beer tapping at the Walnut Brewery. It starts off with the beer-tapping event on November 13th and runs through the month of November or until this unique hand-crafted beer runs out! A portion of the proceeds from the beer sold will benefit RMRG.

Walnut Brewery 1123 Walnut St Boulder

Joe Despres Memorial Avalanche Transceiver Training

Stay safe this winter by refreshing your avalanche beacon skills at RMRG's annual Joe Despres Memorial trainings. Bring your family, friends, and ski/ snowshoe partners. Training is free. Bring your own beacon or borrow one of ours. Dress warmly, bring a headlamp and a transceiver if you have one. Transceivers are available free for loan with deposit of a driver's license. Contact Mike.Griffin@rockymountainrescue.org to RSVP.

7 pm · December 1 & 2 · Chautauqua Ranger Cottage · Grant Pl. & Baseline Rd.

Holiday Gift Wrapping

Stop by Neptune Mountaineering in Boulder December 22nd (10 am to 5 pm) to get all your gifts wrapped by "expert" wrappers! Neptune Mountaineering 633 South Broadway Boulder



See our website at www.RockyMountainRescue.org for all the up-to-date details on these and other events.

Other News

New Book Available on 1956 Grand Canyon Air Disaster

On June 30, 1956 a United Airlines DC-7 airplane with 58 passengers on board and a TWA Constellation airplane with 70 passengers on board collided over the Grand Canyon. There were no survivors. The search and recovery operations lasted about 10 days. Airline personnel, military helicopters, RMRG, other Colorado climbers, and a Swiss rescue team were involved. The disaste was a significant historical event for RMRG as well as for national aviation.



Mike Nelson of Waverly, IA has spent many years compiling a comprehensive and readable account of the disaster, exploring both technical and human aspects. His book, titled "We Are Going In," is now available at www. WeAreGoingIn.com. The author acknowledges the significant contributions of RMRG to his research. RMRG has no financial interest in the book.

Change of Address

After many decades, RMRG's mailing address is leaving the well-known PO Box Y and moving to our headquarters at 3720 Walnut St., Boulder, CO 80301.

Sneak Preview - Newsletter 2013

In 2010, RMRG hosted the Sichuan Mountain Rescue team from the Sichuan Province, China. This year they are returning the favor; RMRG in China!



We publish this newsletter once per year. If you would like a copy, you can receive an electronic copy by signing up on our website http://www. RockyMountainRescue.org/Publications.php or receive a hard copy by emailing Newsletter@RockyMountainRescue.org and include your name and mailing address. Your information is kept confidential and will only be used for the newsletter distribution.

Innovations in Patient Care: Extremity Vacuum Splinting

Jake Entin

Thank you to our 2011 supporters!



hoto: Dave Christenson

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In Service

If you would like more information about RMRG, please visit our web

site at www.RockyMountainRescue.

org. Also, please consider that we are an all-volunteer organization with no paid positions. About 40% of our yearly budget comes from private donations. RMRG is an IRS 501(c)3 charitable organization, and all contributions to RMRG are tax deductible. We accept donations at our web site or by check (made out to Rocky Mountain Rescue Group). Checks can be mailed to:

Rocky Mountain Rescue Group, Inc. 3720 Walnut St. Boulder, CO 80301 The Rocky Mountain Rescue Group has a long history of being on the cutting edge of patient care. From our early beginnings with manufacturing our own gear, tough enough to withstand rigorous use, to finding the latest technology available to increase patient care and comfort, RMRG has always done our best to find new and improved ways to care for our patients.

For decades, RMRG has used a full-body vacuum splint to immobilize our patients in our steel-framed litter. Vacuum splints became available during the 1970s as an alternative to rigid splints and air splints. Among their advantages are patient comfort, ease and speed of application, added insulation in cold



Photo: Dan Lack

environments, and their transparency to x-rays. They are extremely versatile and can be applied to patients in a wide variety of positions. The environment in which RMRG performs technical rescues means that evacuations can occasionally take 5 hours or more before an ambulance is reached. Maintaining immobilization. comfort, and security for the patient over these extended evacuations

is essential for ensuring the best possible patient outcomes. For all these reasons, RMRG has been using this specialized piece of equipment since 1990. Over the last two decades, the equipment has changed slightly, but the technology remains basically the same.

The vacuum splint, or "bean bag" as we call it, is simply two membranes of tough material sandwiching a bunch of styrofoam "beans." When there is enough air between the membranes, the bean bag is pliable and easy to form around a patient in almost any position. When suction is applied and air is evacuated from the bag, the beans form a rigid structure. As long as a vacuum seal is maintained, the bean bag acts like a custom backboard—one that is far more comfortable and effective in immobilizing patients, due to the added benefit of forming uniquely to each patient's body.

RMRG's first bean bag arrived in 1990 and was manufactured by a little known company in Europe. Because the equipment wasn't always readily available, when the time came to replace the original bags the group was forced to use products from competitors that ultimately proved to be less durable.

Fortunately, the original company evolved into Med Tech Sweden, Inc. in the U.S., and has worked hand-in-hand with RMRG to customize a new fleet of bags specifically for mountain rescue.

Over the past year, RMRG has begun to use several smaller versions of Med Tech's vacuum splint for use on extremities, either in conjunction with the full bean bag or on its own in the case of isolated injuries. We've seen significant benefit in extremity splinting with these "mini" bean bags, as they are not only quick to apply, but also less painful for patients as they reduce the amount of manipulation required to splint. The extremity splints have already proved highly valuable to our rescue work. On more than one occasion a vacuum splint has been used to stabilize an isolated injury on a patient in hard-to-reach locations. Faster, more effective immobilization allows us to perform simpler rescue operations, requiring fewer personnel, and thereby decreasing exposure to rescue hazards, for patients and rescuers alike. Two recent rescues of injured climbers—one 200 feet off the ground in Eldorado Canyon State Park, and the other above 12,000 feet, just below the summit of S. Arapahoe Peak—were executed using an extremity splint for a broken leg and a tandem rappel with a rescuer.

We continue to be on the lookout for new and improved ways to treat our patients. The extremity splints have proved to be a valuable addition to our gear, and we would like to thank the team at Med Tech Sweden for all of the help they have provided. Do you know of something that might be useful to us? Let us know by emailing Contact@RockyMountainRescue.org.



Photo: Dan Lac

Steve Dundorf, Dave Lewis, and Jonathan Hough

When an Accident Becomes a Statistic – to **Prevent Future Accidents**

Dan Lack

When I first joined RMRG I kept hearing more experienced members say that we were one of the busiest teams in the country for mountain rescue, particularly for rock climbing rescues. Sure, a team like Yosemite Search and Rescue (YOSAR) has 3,000-foot walls to pluck people from, and Yosemite attracts the baddest climbers in the world, but Boulder County has 3 premier climbing locations jammed into a really small area, all within a short drive of over three million people. After 8 years on the team, my penchant for Excel spreadsheets and data (given my day job as a scientist at the University) got the better of me and I started to really look hard at just how busy RMRG is for climbing rescues.

As mission logs and mission reports were interrogated, it became obvious that not only did we possess basic information on the number of rock climbing rescues we perform, but we also had valuable information on how many rock climbing accidents are caused by belay errors, rock fall, and anchor failure. We had data on the types of injuries, the cause of fatalities, and when someone was likely to require our assistance. After putting a first-draft report together, our medical director Dr. Alison Sheets suggested in passing that we could get it published in a peer-reviewed journal. We realized that getting these climbing stats published would not only be beneficial for RMRG, but would serve to educate the larger rescue community, and climbing communities alike.

Fast forward 12 or more months. After a lot of help from Dr. Sheets. Dave Christenson, and Jake Entin (as well as a number of internal reviewers), the paper "Rock Climbing Rescues: Causes, Injuries and Trends in Boulder County, Colorado" was published by the Wilderness & Environmental Medicine Journal.

So what did we find, and how was it received?

It turns out those experienced members were right (not that I doubted them). Over the course of 14 years (1998 - 2011), RMRG assisted 428 climbers,

> which made up about 20% of all the people we rescued. For comparison's sake, YOSAR rescued 442 climbers over a 10-year period up until 2000. The majority of RMRG's accidents occurred in Eldorado Canyon, but the Flatirons and Boulder Canyon were close behind. Most rescued climbers were male (78%), and those rescued were most likely to be between 20 and 29 years of age (46%). Sixty percent of injuries were to the legs, head, and spine, which told us that if

ers educated themselves on splinting and assessment of spinal injuries, then they could potentially be of much greater assistance to fellow climbers.

The most interesting information we found relates to those accidents that can be prevented. Of those accidents involving technical climbing (not free-soloing, scrambling, etc.), 20% of the accidents resulted from simple errors in belaying. The clear take-home message is this: Learn how to belay properly, and **never treat it casually!** Only 2.5% of accidents were from anchors failing, but when they did fail, it was because of very rudimentary errors. Learn how to assess each and every anchor for being BOMB-PROOF.

A whopping 45% of all people rescued were lost or stranded, not injured, and could have avoided the whole experience by taking a headlamp, a guidebook, and/or learning the rappel anchors and walk off routes for climbs. **Prepare** yourself so you don't get lost. Rock-fall, a sometimes natural and bad-luck occurrence, caused 4.5% of accidents but were mostly concentrated during the spring and summer, when the freeze thaw cycles are still active and climbs are

seeing their first ascents of the season. So take extra care when climbing during these times and be sure to stay out of the direct fall-line of climbers or hikers above you whenever possible.

The most gratifying aspect of writing this paper is that the lessons learned by the 428 climbers we rescued got into the hands of other climbers and rescuers. Once the paper was released in July, we made sure to spread the word by sharing our work on climbers' forums, the national Mountain Recue Association's email list, and RMRG's Facebook page. Within days, climbing forums in the U.S., South Africa, Australia, and Europe had spread the word for us. As of last count, our work had reached over 5,000 people. Even if we prevent one accident through this work, then RMRG can feel good about our years of rescuing, record-keeping, and attention to research and development.

The paper, and associated information can be found on our website: http://www.RockyMountainRescue.org/Climbing_Rescues_Causes_Injuries_ Trends_Boulder.php



Photo: Dave Christenson

Practicing vertical evacuations

Remembering Former Members from RMRG's Early Years

Willie Colony Member 1953 to 1956 RMRG Frontiersman

Willie Colony and his wife Joc (Jocelyn) were very active in RMRG in the early to mid 1950's. One might call these the "wild west" days of RMRG, when some members carried side arms. Really...guns on rescues? Yes, but not for what you would think; they were for the purpose of signaling. In those days portable radios were heavy, rare, and unreliable. So some members carried a side arm for signaling an event, such as a deceased victim found (MRA Code 4) equal to 4 shots. During one operation, the grip on Willie's service weapon failed. He repaired it with adhesive tape from his first aid kit, and then painted a cross on the repair using mercurochrome from his kit. Thereafter he referred to his sidearm as his "frontier first aid kit".

In 1956, many RMRG members had some forest fire fighting training. Early that summer RMRG sent a crew to a major forest fire in Rocky Mountain National Park on the North Fork of the Big Thompson River. Willie was the RMRG crew boss and Joc worked in the kitchen. She overheard the rangers discussing the fact that the seasonal ranger assigned to the station had quit one morning as the fire had scared him. They didn't know where they could get a replacement on short notice. Willie walked over and said he was available immediately, so they hired him on the spot.

That was the start of his career with the National Park Service. Willie and Joc worked two seasons at the Twin Sisters lookout, earning the grand sum of



Willie Colony (foreground) with Ray Batson and John Clark at the Medicine Bow Peak airplane disaster in 1955. Courtesy, Dex Brinker.

\$90/month. Willie and his lifelong friend John Clark were the climbing rangers at the Longs Peak ranger station when the first ascent of the Diamond [the vertical east face of Longs Peak] was made. Willie accepted a permanent position in the Park Service in January of 1962, and that took him away to Glacier NP in Montana where his mountain rescue work continued. He trained many rescue and fire crews during his time in Glacier. In the winter of 1969 he led the technical side of the Mt. Cleveland rescue as related in the book The White Death, by McKay Jenkins. During the latter part of his Park Service career he transitioned to the position of Fire Control Officer for Glacier and finally retired in that position. Willie Colony died November 23, 2011. The current members of RMRG very much value and appreciate his contributions to the team during RMRG's formative years.

Dale Johnson Member 1949 to 1962

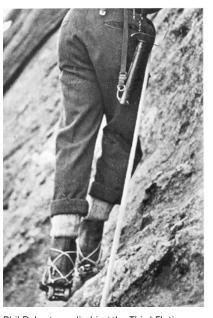
Climber, Mountain Rescuer, Businessman, and Environmentalist



Many RMRG members come from CU-Boulder. Some members even come with a bit of notorious "history." Dale was a freshman at CU in 1949 and half of the infamous duo that painted the first big "C" on the Third Flatiron. This nighttime act of Flatiron graffiti was witnessed by some other climbers and evoked a spirited response. When Dale and his cohort descended they were met by these climbers and tied to a tree for a short while. Later, Dale and the climbers that "detained" Dale

became good friends and climbing partners. Dale joined RMRG in 1949 and was active through the mid 50's.

His exploits and endeavors over the years were numerous including: the first ascent of Redgarden Wall in Eldorado Canyon; first roller skate ascenof the Third Flatiron: founder of Frostline Kits; and volunteer pilot for LightHawk, which has mapped many potential wilderness areas across the western U.S. Dale died April 23 2012. We appreciate Dale's significant impact on RMRG during our beginnings.



Phil Robertson climbing the Third Flatiron with Dale Johnson (not shown) in the 1950's - in roller skates Photo: Dale Johnson

We Never Charge for Rescue

RMRG does not charge for search and rescue under any circumstances. Our position is guided by the experience that people's concerns regarding billing can delay and complicate rescue operations. We are members of the Colorado Search and Rescue Board and the Mountain Rescue Association, both of which also oppose billing for mountain search and rescue services. Other agencies may also be involved in patient services and RMRG cannot control billing practices of these other agencies. For more information please see http://www.RockyMountainRescue.org/Charging4Rescue.php.

Newsletter Distribution

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Recent quotes

"I was lost in the Rocky Mountain National Park and your wonderful association and 2 names I can remember – John and Pablo – along with numerous others found me around 1a.m. They were so kind, I just want to thank them and your wonderful organization. May God bless you for what you do. I was never so glad to see someone in my life."

- Pablo S., Lakewood, CO

(excerpt) "Imagine our response when people ask "what did the mountain rescue cost?" You guys are amazing. And from the moment you showed up below the Third Flatiron, she knew she would be fine."

- Family members of Julie T.

(excerpt) "We were so incredibly moved and impressed by all of your efforts to find my dad in early October. Although it was an incredibly hard time for us all, we found such comfort in your motivation, drive & professionalism. I will always hold your organization close to my heart and will continue to think of you all, spending your weekends helping others and providing such an amazing service. Thank you for all that you have done and do."

- Sophie M., Boulder, CO

(excerpt) "I slipped on the trail at Boulder Falls and badly injured my leg. Your group was responsible for getting me down the trail and into the ambulance. I will be forever grateful for your team's skill and all that you did to reassure me."

- Sharon P., Holt, MI



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