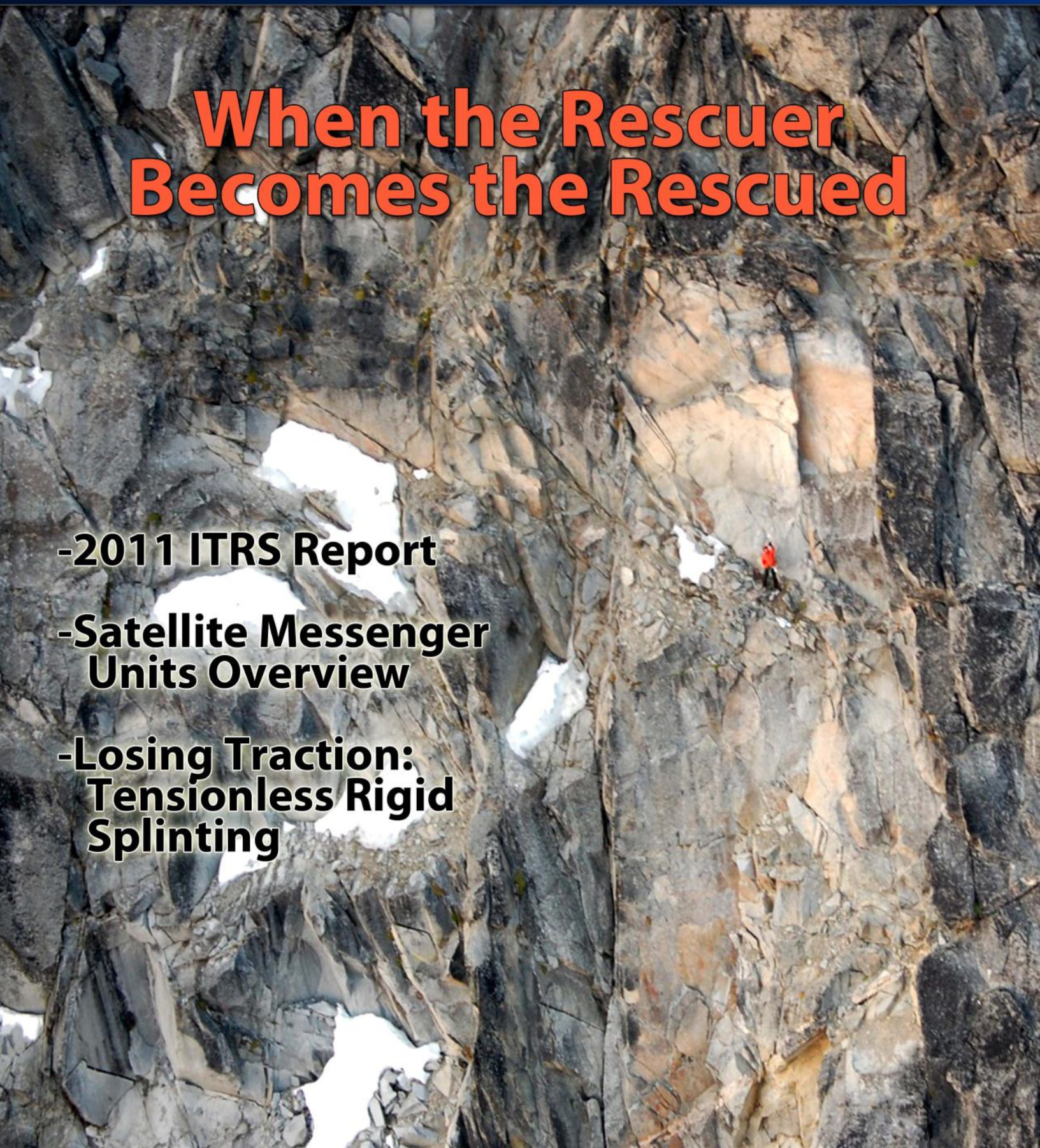


When the Rescuer Becomes the Rescued

-2011 ITRS Report

**-Satellite Messenger
Units Overview**

**-Losing Traction:
Tensionless Rigid
Splinting**





MOUNTAIN
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January 2012

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Cover: Subject signals to SnoHawk 10. Photo courtesy of Snohomish Sheriff's Office.

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Sherpa peak at sunrise as viewed from Mt. Stuart. Photo by Jonah Manning.

When the Rescuer Becomes the Rescued

First person account of a high-altitude rescue on Mount Stuart, Washington

I am an EMT with the Everett Mountain Rescue Unit (EMRU) and a Rescue Technician on Snohomish County's Helicopter Rescue Team (SC-HRT) in Washington State. On September 7, 2011, while off-duty, I suffered a climbing accident rendering me physically incapacitated and in need of a rescue in technical terrain at the 9000 foot level in the eastern Cascades. What follows is a recounting of the well-coordinated and professionally executed rescue that undoubtedly saved my life. I am forever indebted to the myriad of individuals and agencies detailed herein. My hope is that other rescue organizations will garner insight from the incident and incorporate any lessons learned into their future rescue endeavors. —Miles Mcdonough

0445 hours

Matt Hoffmann and I depart the Esmeralda Basin Trailhead to attempt a car-to-car summit of Mt. Stuart via Ingalls Lake and the West Ridge route with descent via Cascadian Couloir and Longs Pass. The weather forecast is unremarkable with a high-pressure system over the region. We are each wearing shorts, shoes and a long-sleeve thermal top. We are equipped with a full climbing rack, a 70m 8.2mm rope, and each carry enough supplies to uncomfortably survive a bivy should the situation present itself. I carry a lightweight ice axe and Hoffmann, a collapsible ski pole. We bring no cell phone or personal locator beacon.

~0800 hours

We arrive at the base of the west ridge of Mt. Stuart and ascend using solo climbing, simul-climbing and belayed climbing techniques. We bring one helmet and decide the follower will wear it to protect from rock fall generated by the leader.

1230 hours

A few hundred feet below the summit, while leading a moderate pitch just past the West Ridge Notch after crossing over to the north face of Mt. Stuart, I pull off a microwave-sized block and fall 70 feet before my last piece of protection, a slung rock horn, arrests my fall. My frequency of pro placements corresponds with the low difficulty level of climbing.

1230-1255 hours

Hoffmann later recounted, *"I heard Miles yell, quickly followed by rock fall. I lowered my stance and braced to provide a dynamic belay. The force generated at my belay device was surprisingly small and Miles was still out of sight. I called out to Miles five times before I heard moaning to my left at an elevation level with my location. Terrain prevented me from climbing to my left. I tied off the belay, tied in to the 15m tail and began to ascend. I ascended to the end of my tail and Miles was still out of sight. I connected to the leader line with a sling, disconnected from the tail, and continued to ascend. At 20m above the belay ledge I was able to see Miles 20m below and 10m to the east lying on a small rocky, down-sloping ledge. His climbing rack had landed two feet below him and his backpack was nowhere in sight. When I called to him he looked up and informed me his shoulder was broken. For the next 20 minutes he continued every 30 seconds to ask me the same few questions and inform me he had a broken shoulder. His questions were: 1) Where am I? 2) What happened? 3) What are you doing?"*

I continued to ascend the leader line and requested he attempt to reach his rack and anchor himself to the rock. I reached a rock bulge that the rope had wrapped over to catch the fall. The rope sheath over the rock bulge was cut but the rope core appeared undamaged. I had no gear to back-tie the rope so I wedged some large rocks over the rope at the rock bulge to ensure that any slack introduced in the line would not cause the rope to slip over the rock, potentially resulting in a further fall. I could see lacerations on Miles' forehead and a tear on the shoulder of his shirt leading to another laceration. I asked him if he had any excessive bleeding or

compound injuries. He said he had non-life threatening bleeding on his lower leg that he wanted to stop but didn't have anything to stop it with. Unfortunately, I could not safely descend and re-ascend the terrain with the gear on hand.

I was most concerned with Miles' level of consciousness but assessed he had no injuries that would kill him in the next 30 minutes. Consequently I prioritized getting off the mountain to activate a rescue. I put a synthetic hooded jacket, lightweight pants, a stocking cap, lightweight pair of gloves, foil bivy sack, a multi-tool, first aid kit and two liters of water into a stuff sack. I clipped the stuff sack to the rope and slid it down to him. I told him that I'd have to leave him on the mountain to reach additional resources and that my aim was to have a helicopter onsite by nightfall. Given his current mental state, I was not confident that Miles was able to comprehend what I'd shared with him."

Hoffmann proceeds to down-climb the 2500 foot west ridge without a partner, rope or personal emergency gear.

1815 hours

Hoffmann borrows a cell phone from a group of hikers and ascends the trail to its crest at Longs Pass. Within reception, he places the 911 call and is patched through to the head of search and rescue operations for Chelan County Sheriff's Office (CCSO), Sgt Kent Sisson. A request is immediately placed with Washington State Emergency Operations Center (EOC) for a high altitude-capable, hoist-equipped helicopter from Naval Air Station Whidbey Island (NAS Whidbey).

After providing all pertinent information, Hoffmann is patched through, per his request, to Snohomish County Sheriff's Office (SCSO) search and rescue coordinator, Sgt Danny Wikstrom.

(Sgt Wikstrom manages the Snohomish County Volunteer Search and Rescue (SCVSAR) program, of which EMRU is a specialty subgroup. Sgt Wikstrom, Hoffmann and I are all members of EMRU. Sgt Wikstrom also manages the CCSO Air Support Unit and flies as lead crew chief for the Snohomish County Helicopter Rescue Team (SC-HRT) on which I am a rescue technician.)

Sgt Wikstrom contacts Chelan County SAR Deputy Gene Ellis to volunteer Snohomish County SAR support and resources. A well-orchestrated inter-county SAR collaboration ensues.

1830 hours

Sgt Wikstrom contacts CCSO chief pilot Bill Quistorf, bringing him up to speed on the accident. Quistorf is informed of CCSO's pending request for Naval air support. Quistorf affirms that the Knighthawk MH-60S (UH-60 Blackhawk derivative) at the Navy's disposal would be ideal to perform a technical rescue at high altitude. The decision is made to go ahead and scramble the on-duty crew of *SnoHawk 10*, CCSO's Bell UH-1H Iroquois helicopter, commonly called a "Huey," in the event that either the Air Force Rescue Coordination Center (AFRCC) or NAS Whidbey reject CCSO's request.

1910 hours

Sgt Wikstrom contacts Oyvind Henningsen, chair of EMRU, and EMRU members are subsequently paged out: *"Stand by for potential mission on Mt. Stuart. 500' below summit on north face. Climbers were on west ridge route. Personnel near TL ("Taylor's Landing," SAR HQ) move to R-41 (EMRU vehicle) to be prepared to depart when I say."*

1915 hours

Sgt Wikstrom is back in touch with Chief Pilot Quistorf to relay that the AFRCC has approved the mission for NAS Whidbey and the latter is in the process of securing a crew.

1920 hours

A second EMRU page is sent out, appropriately providing notification that both the subject and reporting party are EMRU members. *"The fallen climber is Miles McDonough. Suspected concussion, broken shoulder and lacerations. Matt Hoffmann is the r/p and has set a rescue in motion with Chelan County—Danny."*

1939 hours

SnoHawk 10 launches with two pilots, one crew chief, one rescue technician and one flight medic all equipped with night vision goggles (NVGs). They fly east from TL—in the direction of Mt. Stuart—only so far as to remain in radio contact with Sgt Wikstrom. If NAS Whidbey is unable to launch, *SnoHawk 10* has effectively eliminated any delay in response time.

1940 hours

Henningsen contacts Sgt Wikstrom and requests authorization to position EMRU teams closer to Mt. Stuart. The request is approved by CCSO SAR Deputy Gene Ellis. Henningsen sends out another page shortly thereafter: *"EMRU responding to Stuart mission, meet at fish hatchery in Leavenworth at 0530. Plan is helo insertion. Climbing and overnight gear, crampons and ice axe."*

EMRU members are to stage with Chelan County Mountain Rescue (CCMR), the CCSO High Angle Rope Rescue Team (HARRT) and medical personnel, Dr. Mark Shipman and medic Braden Kirk—all of whom have been activated by incident command (IC), CCSO Sgt Sisson.

2006 hours

Sgt Wikstrom receives notification from the IC, Sgt Sisson, that the Navy *Firewood 3* Knighthawk has accepted the mission and is in route to Mt. Stuart with an ETA of 20 minutes. Sgt Wikstrom advises *SnoHawk 10* return to TL and begins preparations for a mission at first light in event that Navy *Firewood 3* is unable to complete the rescue.

2030 hours

EMRU members convene at TL to discuss an alternative ground team effort. Sandeep Nain, my roommate, long time climbing partner and fellow EMRU team member is tasked with notifying my family.

At approximately the same time as Nain's phone call, in the fading summer dusk, I hear the unmistakable sound of helicopter rotor blades as they come roaring over the west ridge. The previous eight, anxiety-ridden hours melt away as the helicopter's presence confirms Hoffmann has gotten out safely and that a rescue is underway. I gain a distinct confidence that proves critical to my ability to endure a long cold night.

With each helicopter pass I struggle up on my ledge, waving what remains of my foil bivy. The helicopter keeps circling—it soon becomes obvious that they are having difficulty locating me on the massive face. I continue to stand up every time they fly by, but I am soon exhausted. My breathing is progressively becoming more labored and shallow. I fear my lung is collapsing, an observation corroborated by my broken ribs and incessant coughing up of blood.

~2100 hours

LCDR Dean Samaniego, USN, aircraft commander of Navy *Firewood 3*, notifies SAR Deputy Ellis of their inability to locate the subject. He insists on refueling to head back for a second search.

Pilot Samaniego later wrote, *"We had the worst luck that evening. Not only were we dealing with high altitude and steadily increasing winds, but the moon was also casting a shadow over your position*

high on the north face of Mt. Stuart so that our NVGs were ineffectual in the search. Passes on the south side revealed perfect visibility."

It becomes apparent to the rescuers involved that without further detail regarding my location, realistic hopes of effecting a rescue would have to wait until morning.

2100-2200 hours

- Deputy Ellis continues communication, exclusively through text messaging with in-flight Navy *Firewood 3*; he acknowledges their desire to pick up Hoffmann for a third flight into Mt. Stuart to increase the likelihood of locating the subject.
- The IC contacts Hoffmann and requests that he return to Longs Pass to await pickup by Navy *Firewood 3*. Hoffmann advises that he is in route back to Seattle and would be approximately 90 minutes returning to the trailhead and an additional hour to hike up to the pass. Alternative plans ensue.
- IC contacts Sgt Wikstrom who in turn contacts chief pilot Quistorf to discuss a potential plan of deploying *SnoHawk 10* to transport Hoffmann from North Bend to Leavenworth, delivering him to Navy *Firewood 3*. Already at risk of exhausting the SC-HRT crew for their scheduled mission at first light, Quistorf and Wikstrom decide not to transport Hoffmann.
- IC, back in contact with Hoffmann, requests he find an airfield or similarly suitable spot for a helicopter landing nearby the current location and to provide GPS location. Hoffmann coordinates with Seattle's King County to assess multiple potential locations. The Washington Department of Transportation (WSDOT) grants permission to land at a nearby facility.

2300 hours

Navy *Firewood 3* lands off Interstate 90 in the east bound gore point at exit 42 in North Bend, WA to pick up Hoffmann. He is fitted with an NVG set-up enroute.

~2300 hours

CCSO Deputy Ellis followed by Sgt Wikstrom authorize EMRU members Sandeep Nain, Kevin Riddell and Jonah Manning to proceed unofficially up the trail to Mt. Stuart and ascend the Cascadian Couloir to locate, assess, and stabilize the subject. In the event that a helicopter rescue is unsuccessful the hasty team would be in position to initiate a ground-based rescue.

2325 hours

Hoffmann is able to locate the subject from the helicopter jump seat during the first pass of Mt. Stuart's north face. My disposition immediately concerns Hoffmann. Not only does my location differ from where he left me but also I now appear to be slumped in a snow patch. No visible movement is detected. Due to strong downdrafts of approximately 24 knots, Navy *Firewood 3* is unable to hover and four additional passes are required for all members of the crew to get eyes on the subject. While attempting to execute a hover near the summit the aircraft experiences a mechanical malfunction. Per safety protocol the mission is terminated and Hoffmann is returned to North Bend.

~2400 hours

Hoffmann places a call to Sgt Wikstrom to report his observations; the subject's apparent condition is dire.

September 8th 2011

0120 hours

Nain, Riddell and Manning (W-EMT) depart from the Esmeralda

Basin trailhead. As EMRU's hasty ground team they pack in a standard hypothermia kit (including a stove, sleeping bag and extra insulation), a climbing rope with rack, limited rescue rigging gear and a first aid kit. They carry a unit radio to maintain communications with IC and a GPS programmed with coordinates detailing the subject's location as recorded on Navy *Firewood 3*'s third and final search. They are especially motivated by Hoffmann's report that the subject is unresponsive and appears to have slipped onto the snow.

I am unable to sleep but at least I am lying down. I alternate between forcing myself to shiver in my foil emergency bivy sack and propping myself up to restore circulation once my legs go numb. The bivy, which was initially satisfactory at sustaining warmth, rips each time I reposition myself on the rocky terrain. I am eventually reduced to holding patches and shreds about my body as best I can; I feel like a climbing bum on an alpine park bench.

0320 hours

The EMRU ground team reaches the base of Cascadian Couloir on Mt. Stuart.

0530 hours

SnoHawk 10 and SC-HRT stage at TL in preparation for launch while Sgt Wikstrom provides the briefing.

Later he reflects, "*Although Miles was a member of their own aircrew and friends with many of us, and although it appeared very likely that Miles had died, the aircrew remained highly professional and focused on continuing the mission to save his life if possible or, at worst, recover his body.*"

0610 hours

SnoHawk 10 launches from TL with two pilots, chief pilot Bill Quistorf and deputy pilot Steve Klett, crew chief deputy Beau Beckner, rescue technician Andy Toyota, and flight paramedic Richard Duncan.

0620 hours

Nain, Riddell and Manning summit Mt. Stuart and begin a series of rappels down the West Ridge in search of the subject.

This EMRU hasty team traveled thirteen back-country miles, mostly in the dark, gaining a total of 6,700' in just over five hours.

The sun's warmth energizes me. In preparation for what I presume will be the resumption of helicopter flights, I use the shreds of bivy foil, a carabineer and my cordelette to improvise a signaling device. During this process I begin to hear shouts from EMRU members high above.



The chopper launches in search of the subject. Photo by Jonah Manning.

0650 hours

SnoHawk 10 arrives at Mt. Stuart and makes radio contact with the EMRU team on the summit. Search operations are conducted and on the initial pass, the subject is spotted standing and waving a signal flag at 8900 feet. The aircrew is elated to find me alive and relays this information to the IC.

Quistorf flies in for a closer look and to perform a hover out-of-ground effect hoist operations (OGE ops) power check. As he expects, there is insufficient power at that weight and altitude to conduct OGE ops. They fly to Leavenworth and land. *SnoHawk 10* is stripped of all non-essential gear, including pilot supplies and extra medical gear. Flight paramedic Duncan retains a small ALS (Advanced Life Support) pack.

Chief pilot Quistorf briefs IC Sgt Sisson and the SC-HRT crew of his plan to leave the rescue technician behind, fly to the subject, hoist lower the screamer suit (extraction suit) and radio to the subject. If the subject is lucid and can properly place the screamer suit on himself, then he will do a hoist extraction of the subject only. If the subject does not sound lucid or cannot place the screamer suit on, then he will lower the flight medic (a technical qualified member of EMRU) on hoist. If the flight medic requires assistance for a hoist extraction, he will return to Leavenworth and pick up the offloaded rescue technician.

0730 hours

The EMRU hasty team, while traversing ridge and conducting voice checks, finds Hoffmann's tied-off belay anchor. Voice contact with the subject is made. Nain rappels down to the subject, staying out of the fall line.



Nain rappels down to the subject. Photo by Jonah Manning.

0740 hours

SnoHawk 10 departs Leavenworth with its crew, sans rescue tech, and intentionally burns off fuel enroute to maximize operability at high altitude. They make a visual on two EMRU members ~100 ft above subject; radio contact is attempted, but without success. An OGE check is conducted and sufficient power is available. *SnoHawk 10* is positioned in OGE hover and a screamer suit with radio is lowered to the subject. *SnoHawk 10* flies away and establishes communication with the subject.

I am asked a litany of questions in an attempt to ascertain my mental status. They need to know if I can safely put on the screamer suit. I request them to stand by as I attempt it. I confirm I have the suit on and secured; Quistorf asks me to articulate a step-by-step

confirmation in order to double check my work. Shortly thereafter, Sandeep Nain of EMRU's hasty team rappels onto my ledge. He immediately begins assisting me with preparations.

Per the IC's request, Chelan Mountain Rescue physician Dr. Mark Shipman monitors the radio exchange. The latter reports that the subject sounds both cogent and appropriate given the circumstances.

SnoHawk 10 resumes a 150 foot hover for an out-of-ground

effect hoist operation at 9000 feet pulling maximum 40 pounds torque (out of 50 pounds available). Aircraft controllability is good with favorable winds out of the southwest at 15mph.

Nain catches the hoist connection and passes it to me. I clip in, double check and give the standard raise signal. The crew chief relays instructions to the pilot to have me unclip from my anchor on the ledge. I am raised up with minimal spin to the cabin while the helicopter has some slow forward airspeed. Crew chief Beckner and flight paramedic Duncan pull me into the cabin. I am immediately fitted with headphones and a rapid trauma assessment is performed as we return to Leavenworth.

0816 hours

We land at Leavenworth to a waiting aid car. Duncan requests and retains care for the duration of the transport to Central Washington Hospital in Wenatchee.

~0900 hours

I reach definitive medical care nearly 21 hours after my fall. Over the next five days I receive treatment for a concussion, a head laceration, a chipped humerus, a broken scapula, a lower leg laceration requiring surgical closure, fractured ribs and a punctured lung/pneumothorax.

In the months since my accident, the crews of SnoHawk 10 and Navy Firewood 3 have both added a laser pointer onboard their respective aircraft in order help locate and get all eyes on a subject at night. Multiple members of EMRU, myself included, have since purchased PLBs for personal backcountry trips. Though I have not entirely recovered from my injuries, I have added a micro LED light to my climbing harness. A light source such as this would have enabled Firewood 3 to immediately locate me with NVGs during their first pass of Mt. Stuart 12 hours prior to my ultimate lift-off with SnoHawk 10. And lastly, for their selfless actions that led to a successful rescue and the saving of my life, the Snohomish County Sheriff presented Matt Hoffmann with the Citizen Medal of Valor; the aircrew of SnoHawk 10 and the EMRU hasty team with the Lifesaving Award; and Chelan County Sheriff's Office SAR, Sgt Wikstrom and the aircrew of Navy Firewood 3 with the Certificate of Merit.



The subject is hoisted by the chopper. Photo by Sandeep Nain.

2011 ITRS Report

By Doug McCall

The International Technical Rescue Symposium (ITRS) was held in Ft. Collins, Colorado in early November, 2011. ITRS is a gathering of rescuers representing mountain, cave, fire, industrial, and swift-water rescue which meets annually discuss ways to improve safety and performance, and answer questions related to technical rescue.

This year there were 16 papers presented over the course of two and a half days covering a wide range of rescue-related topics with a healthy balance of rigging-specific topics. The papers presented included:

- 1) Search Drone (UAV) Project North Search Team, Venezuela
- 2) Extended Care Medical Technologies
- 3) Empirically Derived Breaking Strengths for Basket Hitches & Wrap Three Pull Two Webbing Anchors
- 4) Roundtable Discussion: NFPA 1670 Standard on Operations and Training for Technical Search & Rescue Incident-Wilderness Search & Rescue
- 5) Selection of Technical Rope Rescue Equipment
- 6) Rock Climbing & Gravity: Timing, Causes & Injuries in Rock Climbing Accidents in Boulder County, CO
- 7) One way I'd rather not take to get off the top of a building and the device that saved us... despite its misuse
- 8) Study of the Perceived Benefits & Liabilities of Use of Manikins vs. Live Patients in Rescue Training
- 9) Roundtable Discussion: Technical Rescue Training & Certification
- 10) Revisiting Pulley Efficiency in Rescue Rigging
- 11) Suspension Trauma Revisited
- 12) IKAR 2011 – Air Rescue Report
- 13) Yosemite Helicopter Rappel Program: Tested and Evaluation Project In-Review
- 14) Carabiner Rigging for Dummies
- 15) New Location-based Data Sources for Use in Wilderness Search Missions
- 16) A Growing Need: Grain Bin Rescue

ITRS works to post all of the papers on their website at: www.itrsonline.com.

I found each of these papers to be a treasure trove of learning and insight into technical rescue. All of the topics were interesting and several stood out. The Suspension Trauma Revisited paper by Dr. Roger Mortimer was perhaps the most interesting to me. This paper focused on why subjects can quickly become unconscious and even expire while hanging in a harness. The key point is that if suspended, the lack of muscle movement in the legs to stimulate the valves in the venous system can cause blood to pool in the legs and leads to a potentially fatal drop in blood pressure. The fact that the person is in a harness has little impact on the cause of this drop in blood pressure. The other big take-away from this presentation was the note of a fatality that happened during a military training where the subject was pretending to be unconscious. By the time the team got to the pretend patient, they found they had a real emergency. Tragically the soldier died during this training.

The paper "Empirically Derived Breaking Strengths for Basket Hitches & Wrap Three Pull Two Webbing Anchors" by Thomas Evans and Aaron Stavens was intriguing because of the widely held standard of wrap three pull two throughout the rescue community. As it turned out during their tests, though the basket hitch --or 3 bite as it is also known-- had a higher overall breaking strength in the lab tests they conducted, it seems possible that the basket hitch/3 bite was able to better self-equalize around a smooth pipe. How this may work in the field could have another outcome if the webbing

were to move around the bark of a tree or rock anchor. The great thing about ITRS is that the research done here can be built upon and folks are challenged to take testing into a field test environment and present it at the next session.

The paper, "One way I'd rather not take to get off the top of a building and the device that saved us... despite its misuse" by Bill Masterson and Casey Cloud was a sobering reminder about the need to remain focused during training. Bill presented a training event gone bad and the process and procedures they introduced to help ensure the accident was not repeated. The scenario involved firefighters training on an emergency procedure to exit the roof of a building by using arm wraps to rappel down the side of a building. They had a belay set up using a MPD to protect against a fall. After several successful iterations of the drill, one of the firefighters had a problem with the arm wrap and couldn't continue the drill. Expecting the belay to catch her she let go of the rope. The firefighter attending the MPD was holding the device in the open position which allows the rope to freely travel through the device. Fortunately, the force of the now falling firefighter pulled the MPD out of the belayer's hand and auto arrested the fall. The firefighter sustained relatively minor injuries, but did not deck thanks to the MPD. Bill humbly described how he believed this happened and the constant need to remain alert during all training events.

One of the papers, "A Growing Need: Grain Bin Rescue," focused on grain bin rescue and was presented by Tom Wood, program manager and lead instructor for Vertical Rescue Solutions. Initially this presentation didn't sound applicable to mountain rescue, but listening to the various aspects and challenges of rigging in this environment helped me to think outside the box a bit and see different possible ways of overcoming rigging challenges faced in various environments. For example, finding a solid anchor point to set up a portable high directional on a typically flimsy roof required creative thinking and still being able to keep the force of the load within the tripod footprint. I was also surprised to learn about the similarities between grain and snow as it related to patient injuries and care.

ITRS is a symposium and thereby an environment where audience participation is strongly encouraged. Sometimes questions are posed to the presenter that may help in furthering research in a topic. I found each of the papers contained relevant learning opportunities for me as an individual and topics I could bring back to my team for discussion and consideration. Further, ITRS is a great opportunity to meet fellow rescuers, share interests and learn how others solve rescue problems around the world.

I was impressed by the number of MRA-represented units and their presentations. ITRS is a great venue for MRA teams to demonstrate and share their depth of rescue knowledge, willingness to learn and commitment to improving rescue techniques.

Next year ITRS will be in Seattle, WA the first weekend in November. If you are interested in learning more about technical rescue techniques, practices and testing or if you have a rescue-related paper that you are interested in sharing, ITRS is a great forum.



International Commission on Alpine Rescue (IKAR)

by Fran Sharp, MRA Past President 2006-2008, MRA IKAR Chair

The IKAR Conference was held in Are, Sweden this October. The MRA, as the lead sponsoring agency for the U.S., sent four representatives to the conference. In Are, over 300 expert mountain rescuers from around the world met to discuss new techniques, new equipment, accident response and political and legal issues – many of the same challenges that our own MRA teams face. It is truly a meeting of the best of the best from each country represented. This year, our representatives were:

- ◆ Ken Zafren, Medical Commission
- ◆ Dale Atkins, Avalanche Commission
- ◆ Ken Phillips, Air Rescue Commission
- ◆ Dan Hourihan, Terrestrial Rescue Commission

We are fortunate to have the expertise of our US representatives not only to share their knowledge at the conference but also to bring back the information presented in applicable reports. These reports are now available on the MRA website at: <http://mra.org/training/ikar-reports>.



Emergency shelter with portable diesel heater and lighting. Used by rescue personnel during motor vehicles accidents requiring extrication. Due to extreme cold temperatures, shelter is deployed over a vehicle at an accident scene to provide instant shelter and heat during patient removal. Photo by K. Phillips.



Swedish National Police EC-135 helicopter. Courtesy photo.

A video of the conference can also be viewed at: <http://vimeo.com/32415785>.

IKAR is a very important conference that the MRA financially supports through budgeting the costs of travel and expenses for the four commission delegates yearly. We are also extremely thankful for the additional support we receive for these expenses from our corporate partners – CMC Rescue, Goodrich Corporation and RECCO AB. We also receive a large personal donation from an MRA member who wants to ensure that the important information from this conference is always brought back to our membership. Although thousands of miles separate the countries involved, we find year after year that the lessons that can be learned and shared are universal to all mountain rescuers.

Please encourage your members to review the reports, which are posted on the MRA website.



Over-snow patient transport trailer for use with snowmobile. Large size permits transport of patient and care provider side-by-side. Alcohol heater provides heat source during transports. Photo by K. Phillips.

Satellite Messenger Units

Overview

By William Laxson, MRA Communications Committee Chair

In August, 2007 SPOT introduced the first small, portable stand-alone satellite messenger. A new communication market segment was created almost overnight, the satellite messenger device. These small, battery-powered and very portable devices allow routine, priority, and distress messages to be sent from almost anywhere on the globe to email or text message accounts at very low cost with high reliability.

The hardware has rapidly evolved from models that only send a few pre-defined messages (along with a GPS location) to models that can both send and receive long messages, and soon even small email attachments. In just three years the technology has grown into an annual market of \$300 million worldwide, with revenues growing at a rate of 25 percent a year.

Operation

All of these messenger units contain a GPS receiver that tracks the position of the device. Each device can then send a message encoded with the current position to a distant ground station, which forwards the message to either preprogrammed locations, or in some cases to addresses included in the message. The message data can be viewed on online websites, in emails, or in text messages sent to cell phones. Depending on the model of the messenger, the message can be restricted to one or two preprogrammed announcements ("I'm OK and located here"), or include custom messages composed in the field at the time the message is sent. All of the units include some form of emergency "911" notification that will trigger SAR operations to the current location.

Reliability

All of the Iridium based units uplink (transmit) and downlink (receive) when communicating with the satellite constellation, so each message is sent only once, and is positively acknowledged as received and forwarded by the ground station.

On the other hand, existing Global-Star-based (SPOT) messengers only utilize a satellite uplink, so the messenger unit cannot know if the message was received and forwarded by the ground station or not. SPOT advertises that the probability that a single status message gets through when used in the continental US is 99 percent or greater. To improve reliability, the message is sent three times at five-minute intervals. This ensures that if one transmission was

made with a satellite at a disadvantaged position (low in the sky, or behind a local mountain), the next transmission will be when a satellite (the same satellite or a different one) is higher in the sky overhead. In the track-me mode, a position message is sent periodically (perhaps every ten minutes), and occasionally these messages are lost. In the 911 emergency mode the units transmit every five minutes continuously.

I have extensive experience with the SPOT and use it almost exclusively in the track-me mode when flying and hiking to create a real-time record of where I have gone. I find that 95 percent of my position transmissions are recorded by SPOT on my website when flying, and about 80 percent when hiking in mountainous terrain. These figures are for Alaska, where we expect some reduction in reliability due to the fact that satellites are only overhead or to the south, never in the sky to the north, due to the inclined orbit of the satellite constellation. Most of the other users I have talked with seem to experience about the same level of reliability, though I have had reports from a few that they considered the SPOT to be very unreliable to the point of being unusable. I know of no reports where the 911 mode was activated and the unit failed to summon help.

Safety Issues

These devices all meet FCC specifications for electromagnetic emissions, as discussed in a recent Meridian article, and are safe to handle while in use. However there is one important point that users should be aware of. These devices transmit their uplink messages using bursts of transmitter power at the one watt power level, and they operate in a frequency band (1610 – 1620 MHz) close to the GPS downlink frequency of 1665 MHz. GPS receivers can be damaged if exposed to the messenger transmitter power when antennas are placed too close to each. I have burned out two amplified GPS receive antennas in my airplane by carelessly setting my SPOT transmitter on the glare shield close--four inches away--from the GPS receiver antenna in flight. A distance of 15 inches has proven safe. So be careful not to drop your transmitting SPOT unit (in the track-me mode) into your pack or a pocket so that it sits close to a GPS receiver! The Delorme GPS receiver with the embedded SPOT uplink in the same package obviously has been engineered to avoid this problem.

Cost

Equipment prices range from under \$100 to \$2,000 depending on features, underlying technology, size, weight, and environmental ruggedness. Hardware cost should continue to decline as the technology matures and the number of units sold increases.

Annual or monthly service plans are as complex and as confusing (if not more so) than cell phone plans, with some providers attempting to offset hardware costs with continuing monthly

revenue stream (their markup over the satellite providers' base satellite data transmission cost). I do not expect service costs to decrease much for these devices since the expense of maintaining the satellite links that underlie the technology is relatively high and the satellite operators are still struggling financially.

The Future

Companies continue to design exciting new portable and mobile devices based on this technology, and to integrate it into our other familiar mobile electronic devices; for example the Bluetooth integration with our existing smart phones. Additional service providers such as INMARSAT are investigating how they might be able to offer similar services through their existing satellites. COSPAS/SARSAT, the company responsible for the worldwide satellite PLB/ELT system, is launching a new generation of MEOSAR satellites (Medium-altitude Earth Orbiting Satellite for Search and Rescue) in the next few years that could allow integration of messaging functions into a new generation of PLB/

ELT equipment by 2015. In 2009, TerreStar built and launched a geosynchronous satellite designed to provide domestic users with a combination smartphone/satellite phone (the \$800 Genus) using a fully IP (Internet Protocol) based satellite link. Their recent bankruptcy and sale to Dish Network leaves Dish Network looking for new revenue opportunities from their new satellite, which is not optimized for TV service delivery, amid speculation they may enter some form of this messenger/data logging market also.

Tables 1 and 2 below summarize the satellite messenger units I am aware of that are currently for sale. This list should not be considered exhaustive as this market segment is growing rapidly. Some of these manufacturers also offer satellite phones that also are equipped with a messaging function, but I am only considering units designed solely for location and/or messenger use. This is an international market, with vendors manufacturing and certifying equipment for use worldwide.

TABLE 1 - SUMMARY OF GLOBAL-STAR BASED SATELLITE MESSENGER UNITS





SATELLITE CONSTELLATION	MFG Messenger Model	MESSAGE CAPABILITIES	APPROXIMATE \$ HARDWARE Annual Service	COMMENTS
Global Star <ul style="list-style-type: none"> CDMA technology 55 satellites Bent-pipe in the sky requires satellite to see customer <u>and</u> ground station at same time Inclined orbit, 55° north (satellites do not pass overhead at high/low latitudes) Coverage degrades above 65° N latitude Messenger units uplink only 	SPOT, LLC Tracker (1 st generation unit)	<ul style="list-style-type: none"> 911 EMERGENCY Or send 2 predefined messages. 	\$100-\$150 \$100 message only \$150 with 10 minute update live tracking	
	SPOT, LLC Messenger (2 nd generation unit)	<ul style="list-style-type: none"> 911 EMERGENCY Or send 2 (or 3 with 2nd gen units) predefined messages. 	\$100-\$150 \$100 message only \$150 with 10 minute update live tracking	
	SPOT, LLC Connect (3 rd generation unit)	<ul style="list-style-type: none"> Send field composed messages from smartphone via Bluetooth link. 	\$150-\$200 \$100 fixed messages \$150 with 10 minute update live tracking \$.50/custom message (41 character) or package deals	
	DeLorme PN60W GPS (with SPOT Connect service embedded in the GPS unit)	Send field composed messages from smartphone via Bluetooth link.	\$350-\$500 \$100 message only \$150 with 10 minute update live tracking	

TABLE 2 - SUMMARY OF IRIDIUM BASED ATELLITE MESSENGER UNITS

SATELLITE CONSTELLATION	MFG Messenger Model	MESSAGE CAPABILITIES	APPROXIMATE \$ HARDWARE Annual Service	COMMENTS
Iridium <ul style="list-style-type: none"> • TDMA technology • 66 satellites • In polar orbit • True world-wide coverage • Satellites forward traffic among selves to AZ ground station • Messenger units uplink and downlink <p>Note: Most of these devices are based on the Iridium core 9602 data modem. Some devices adapt the Iridium Shout or Shout Nano package scheme also (Epsilon Tracking, NAL Shout Nano, others) and are not included in this already lengthy list.</p>	Iridium Shout NANO (2 nd generation unit)	Send GPS position and send/receive field messages. Outgoing message composed from keyboard, or send pre-composed messages using quick-codes.	\$1,200 ~\$1/message depending on plan	2 nd generation unit 
	GeoPro Messenger	Send GPS position and send/receive field messages. Outgoing message composed from keyboard, or send pre-composed messages.	\$700 ~\$1/message depending on plan	
	Spider Tracks Model S3 Model S3 lite Model S4	Sends position only on programmed intervals.	\$600 - \$1800 Too many options to detail – \$15 to \$80/month	Optimized for Aircraft tracking 
	SatCourier B102	Send GPS position and send/receive field composed messages from smartphone via Bluetooth link.	\$500 \$30/month with 12,000 characters (up or down link)	
	Trident TRIG	Send field composed messages from smartphone via Bluetooth link. Handles multiple individual accounts.	Price not established ~\$1/message depending on plan	
	Solara Field Tracker 2100	Send GPS position and send/receive field messages. Outgoing message composed from keyboard.	\$900 Various service plans to \$30/month	
	Yellow Brick III	Send field composed messages from smartphone via Bluetooth link <u>or</u> from keyboard. Handles multiple individual user accounts.	\$600 Various service plans	

2012 Winter Business Meeting

By Neil Van Dyke

The Mountain Rescue Association winter meeting was held the weekend of January 7th at the Staybridge Suites in West Valley City, Utah.

Several groups of intrepid skiers in search of famed Utah powder arrived a day early for pre-conference activities. The largest contingent met at Park City, while smaller groups were rumored to be at Deer Valley and Solitude. Hooting and hollering could be heard throughout the area, and a good time was had by all, despite a lack of typical snow levels. Everybody reconvened at the hotel on Friday evening for snacks and refreshments.

Saturday provided an opportunity for a full day of updates and discussions on a number of topics.

Trademark Protection: Kayley Bell brought the membership up to speed on all of the good work that is being done on trademark protection. The discussion was most animated when the membership was informed of "Mountain Rescue Pale Ale" being brewed in Oregon, and all sorts of creative ideas for licensing rights were discussed. An informal committee was established to test the product and report back at a future date.

Marketing: Bryan Enberg gave an informative update on all of the social media marketing initiatives that have taken place over the past year. The MRA blog is gaining traction as a means of getting messages out to the public on mountain safety topics, and Facebook continues to increase in popularity as does Twitter. MRA is fortunate to have a social media wizard like Bryan keeping us up to speed in these areas.

Cave Rescue Accreditation: Art Fortini led a spirited discussion about the possibility of accrediting teams in Cave Rescue instead of Snow & Ice for technical rescue teams that are located in areas without winter conditions. Teams from the southeast section of the US have expressed interest in full MRA membership, but due to geography do not have the need or opportunity to operate in a "white" environment. Arguments for and against were presented, but ultimately there was enough support for the concept for a task force to be appointed to present a proposal for consideration at the June meeting. The task force will be chaired by Art, and includes Bryan Enberg (Appalachian Region chair), Monty Bell (membership chair), and Scott Sutton of Vail Mountain Rescue Group.

Education: A panel of Charley Shimanski, Jim Frank and Bryan Enberg presented a summary of all the work that has been taking place on the MRA educational front. In addition to the blog mentioned above, most of the effort has been on researching and evaluating new methods of delivery of MRA educational programs. We have excellent materials, but the days of presenting them effectively in .PDF formatted documents has passed us by. An example of a PowerPoint presentation (designed primarily for public presentations or team training presentations) was shown by Charlie. Bryan also presented an online learning solution based on the "Moodle" platform. While the upfront costs for development and design of the initial program are not inexpensive (roughly \$13,000), the cost per program goes down significantly as modules are added.

Fundraising: Rocky Henderson introduced Emily Pollard and Jennifer Baldwin, who have been contracted by MRA to pursue corporate and grant fundraising. They both gave summaries of their strategies over the coming year, with the initial focus being on raising funds for the above mentioned educational initiatives. The



"Where's the powder?" Pre-conference ski trip to Park City.

membership was very hopeful that this will be a successful effort.

Paid Staff: President Neil Van Dyke expressed some frustration over difficulty in bringing projects and initiatives to closure due to constraints given the all-volunteer structure of MRA. He raised the philosophical question of whether MRA was happy with our existing structure and productivity, or if we should revisit the issue of paid staff. Monty Bell commented that NASAR with three and a half paid staff members has many of the same issues. Many members felt the issue was one of our board structure, in that it only meets twice a year and this slows down decision-making. The concept of a third, perhaps "virtual" meeting was discussed.

Strategic Planning: Charley reviewed our strategic plan and its history, and a discussion ensued regarding how to proceed in the future. The general consensus was that we should continue to revisit and "tweak" the existing plan, but that it was not necessary at this time to start the process again from scratch.

Sunday was the business meeting. Minutes will be available soon, but some quick highlights from the meeting:

- Four new region chairs were recognized – Art Fortini, California – Bryan Enberg, Appalachian, - Dan Lack, Rocky Mountain – Doug McCall, Washington

- Long time MRA members Tim Cochrane and Dick Sale who have passed away since our last winter meeting were remembered with a moment of silence.

- The budget was approved, with the most significant change being a \$20,000 allocation for education.

- Frank Sharp (participating via Skype from her home) proposed a change in the process for selecting IKAR representatives that involves an open election, which was approved.

- Future meetings were discussed. June 2012: Lake Tahoe; June 2013: Arizona; 2014: New Jersey. There was also discussion of the possibility of holding the winter meeting later in January or early February, and the membership authorized the officers to investigate this possibility.

More complete draft minutes will be posted as soon as available.

Thanks to all who made the trip and participated in the very productive January 2012 meeting!

Losing Traction: Tensionless Rigid Splinting as Best Practice for Femur Fractures

By Tim Burdick MD, Fellow Academy of Wilderness Medicine, Stowe Mountain Rescue, MRA Medical Committee

For almost a century, the traction splint has represented the well-established standard of care for the pre-hospital treatment of mid-shaft femur fractures. The technique was popularized by Meurice Sinclair, a British physician who took care of victims of World War I. At the time, infantry troops with ballistic injuries of the thigh were often left for days in the muddy No Man's Land, dying of slow bleeds, infection, and exposure. The treatment modalities changed with the initiation of earlier retrieval of the wounded, closer attention to wound treatment, and the application of a traction splint. Some of the earliest traction splints were in the hospitals and looked more like a canopy bed with overhead pulleys and weights. There was also the introduction of the Thomas splint for pre-hospital treatment. The mortality associated with ballistic injuries of the femur decreased during the war from 80% to less than 10%, and the traction splint (only partially responsible) took the credit.

In an exhaustive review of the published scientific studies on femur fractures, not a single report has credible data to support the claim that traction splints are better than tensionless rigid splinting for management of non-ballistic femur fractures. The science just doesn't support the claims. For a good review of the issues, read the entire issue of the Journal of Emergency Medical Services, 2004 (Aug): 29(8).

Here's a quick review of the evidence for and against traction splints.

- 1) Traction splints decrease pain. Scientific evidence: no published data. Anecdotal evidence: while we have all seen pain decreased with traction splints, a really good rigid splint of any kind will also decrease pain. There are no published studies comparing pain relief from traction splints with pain relief from other splints.
- 2) Traction splints prevent significant blood loss into the soft tissues of the thigh. Scientific evidence: no evidence. Research shows that only about 2% of femur fractures have significant damage to blood vessels. (This argument would also require the traction splint to create enough pressure in the thigh to overcome systolic blood pressure, or a tamponade effect. Even if the traction splint could create that effect—and it does not—why would we want to create a tourniquet or compartment syndrome?) I've not seen a patient with hypovolemic shock from a closed femur fracture.
- 3) Traction splints can't cause harm. Scientific evidence: traction splints can be harmful. One third of traction splints are placed in cases when they are contraindicated, mostly undiagnosed knee trauma, including ACL tears. (It is very difficult to diagnose a ligamentous knee injury on physical exam soon after an injury and with a concomitant femur fracture.) There are other published cases of pressure points on the ankle requiring skin grafts. In some cases, patients have had nerve damage from the pressure at the ankle or hip attachments, including pudendal nerve injury causing erectile dysfunction.
- 4) Traction splints can be improvised. Scientific evidence: no published data. Although I enjoy making a ski pole and coffee mug traction splint as much as the next W-EMT student, I seriously doubt that this contraption makes a good splint, in part because we focus too much on the "traction" and not enough on the "splint." Most improvised devices – and many commercial ones – have inadequate rigidity. (Really – just one flexible tent pole?) I'll put my improvised rigid splint up

against the best ski pole and coffee mug any day.

- 5) Independent review of the data: "From the evidence available, the routine use of traction prior to surgery for a hip fracture does not appear to have any benefit [in the hospital setting]." (Cochrane Review 2009)

So if not traction splints, then what do we do with a femur fracture? Treat it just like any other fracture: Splinting 101. Pad the leg well. Immobilize the bone and joints above and below the fracture; make sure the splint goes well above the hip and well below the knee. Next, buddy-splint the legs together, placing more padding in between the legs. Place the patient onto a full-body vacuum mattress, then in a rescue litter. Add more padding around the patient in the litter. In rough or steep terrain, use an improved webbing harness to tie the patient into the litter to avoid jostling the leg. Pain medication, even acetaminophen 1000mg and ibuprofen 800mg can help. My preference is for fentanyl (intravenous or intranasal), followed by a longer-acting medication such as tramadol.

The splinting protocol above also eliminates several awkward packaging problems common in the backcountry. In cold weather rescues, it is much easier to keep the foot warm without the traction splint. (Yes, for durations of 30 minutes or less you can put on an ankle hitch over a boot. For longer rescues, the boot and ankle hitch will lead to cold and ischemic injury to the foot.) Ever tried to put a traction splint in a litter? It never fits. Inevitably, rescuers bump the distal end of the traction splint hanging out of the end. The inconvenience is magnified if the rescue involves hang-angle terrain or helicopter evacuations. It's hard enough to handle the patient in those scenarios without the traction splint protruding an extra ten inches beyond the litter.

Although my team has always looked at me a little funny when I tell them to avoid traction splints, we did manage a femur fracture successfully without traction during a six-hour evacuation. The patient's pain was a "one" on scale of ten with a well-fashioned rigid splint as described above. In a review of traction splinting, Arbenell concluded that the "treatment (of pre-hospital femoral shaft fractures) with a long backboard, rigid splinting, and/or ... position of comfort may constitute an acceptable course of care." It takes a leap of faith to get past the decades of training we have all had regarding the management of femur fractures. Looking at the scientific evidence, traction splints should be used with caution.

My personal recommendation is first to attempt to manage the fracture with a tensionless rigid splint, vacuum mattress, and padded litter. If the pain is still poorly controlled and there are no contraindications, apply traction in combination with the rigid splint. Release the traction every hour for ten minutes to limit the risk of tissue damage. If the pain does not get worse when the traction is released, don't pull again. If the pain does get worse, consider how the splint can be improved without resuming traction. Lastly, work with your medical team to deploy appropriate pharmacologic management of pain in all trauma cases. Use the traction splint for the shortest duration of time possible – if at all – being aware that every minute of traction may be causing more harm than good.

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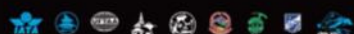


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Regional News

Washington Region (WMRA) Holds First “Official” Rock Re-Accreditation

By Marty Lentsch

The September morning was cloudy, comfortable, and busy as units gathered to organize for their technical rock re-accreditation in Leavenworth, Washington. In three sessions with three teams each session, Saturday morning, Saturday afternoon, and Sunday morning, all nine WMRA teams completed a test of their rock rescue skills. Evaluators, team members of the region, were assigned their team to review and given the paperwork outlining the criteria as agreed to by all teams in the spring of 2011. With team equipment distributed, sign-in completed, and explanation of the morning's plan briefed, the teams were then given details of their particular scenario they were to address. An energetic anticipation pervaded the staging area as teams boarded their trucks for the drive down the Icicle Canyon, colorful with hues of gold, red and orange of early fall.

The performance scoring was in four areas: team organization, subject management, safety, and technical rock skills and the corresponding detail to the area. The evaluators had the choice of three grades to enter and comments were included. All nine teams passed their technical rock with excellent scores. Many participants commented that the exercise had benefitted their team in providing a goal to accomplish. Scott Welton, Everett Mountain Rescue Unit, stated that the preparation for re-accreditation improved the whole



Everett Mountain Rescue Unit and evaluators from Seattle, Tacoma, Olympic, Skagit, and Bellingham Mountain Rescue. Photo courtesy of Everett Mountain Rescue

team and refined their skills, making their team function more cohesively. The camping option provided an opportunity for teams to become more acquainted with other team members as they enjoyed the warmth of campfire and good food. Others enjoyed the Bavarian dining in Leavenworth. This spring, the snow/avalanche test will be conducted at Snoqualmie Pass. There is consensus that the path to re-accreditation benefits and increases overall team performance.



Guiding line extraction by Seattle Mountain Rescue on Rattlesnake Rendezvous. Photo courtesy of Seattle Mountain Rescue.



Did you know...

that Meridian now sells advertising space? Meridian is distributed via email to approximately 2,000 MRA members on a quarterly basis, as well as accessible to the general public on our website. If you know any SAR-related businesses who might be interested in advertising, please refer them to our editor at adebattiste@aol.com for rates and more information.

DCSAR Accreditation

By Dan Land

On Saturday afternoon, January 14th, after the California Region meeting, the Search and Tracking Accreditation began for Douglas County SAR. The page came out for two overdue in a 4-wheeler that went out for an early morning view of the sunrise. The location was the high desert and the Pine Nut Mountains, in Douglas County, Nevada, east of Lake Tahoe. The reporting party was called; he provided limited information, was prompted for more information, and then was instructed to come into the station for further interviews, where the 'habeas grabpus' was put on him. The two missing subjects were Lynda and Marilyn.



As the scenario played out additional information came into the CP to help and to complicate the search: Vehicle identification, and a text from Madelyn that they had seen a low flying aircraft about to crash – they were trying to follow (NFD). A call to the local airport indicated that no aircraft were overdue or missing. A later report from the Minden-Tahoe Airport revealed that a red Cessna airplane had left the airport and was missing; its last direction of travel was eastbound and no flight plan was filed (NFD). Another text from Marilyn stated that she had dropped off Lynda on Sunrise Pass Road and was continuing in the vehicle and still trying to locate the downed aircraft (NFD). Field teams had begun their assignments and the mobile command post ('the Bomb') had moved into the search area.

This was a difficult search area. The initial search area was 200 square miles in a region that was heavily used by ATV's and



The mobile command post, aka 'The Bomb'. Photo by Dan Land.



Inside 'the Bomb'. Photo by Dan Land.

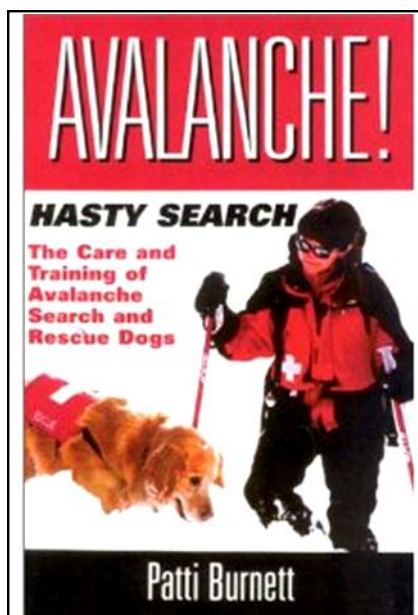
4-wheelers. There were tracks everywhere and people interviewed in the area had seen nothing. The CP requested helicopters and fixed wing aircraft to assist, but all were grounded....sorry. It was 1600 hours and there were no hits from the plane's ELT, which was typical. The subject's vehicle had not yet been located. By night-fall it was deemed that the ELT was bad...classic; a second ELT was planted at 2030 hours.

Activity was picking up and Lynda had been located; Marilyn's vehicle had been located and DCSAR was now getting hits from the ELT. A tracking team was following tracks from Marilyn's vehicle. At 2300 hours voice contact was made with Marilyn and the triangulation of the downed aircraft was narrowing.

Marilyn had fallen and was treated for a broken leg, packaged, and carried a quarter mile to the road. The downed aircraft was located. Finally done? Not quite; we needed a grid search to compare the field team's POD with the actual POD. The field team estimated their POD at 70% and the actual POD was 92%, better than we thought.

Now for the search debrief and the evaluators debrief. All evaluators' recommended a "pass." The official board vote and confirmation will come at the next region meeting in May; however, congratulations are in order to DCSAR on a search(es) well done. DCSAR's next accreditation is planned later this year in Snow & Ice.

All this was followed by an evaluator breakfast at 0130 at a smoky casino café. Evaluators John Chang, John Glabis, Andy Puhek, Antonio Arizo, Jim Frank, Cindy England and I discussed the accreditation and said goodbye until the big one. Having to leave early and missing from breakfast were evaluators Art Fortini, Larry Smith, and Jason Flesher.



Book Review:

Avalanche! Hasty Search: The Care and Training of Avalanche Search and Rescue Dogs

By Jules Harrell

As with the majority of books written by SAR volunteers and professionals, this one is fabulous and really hits home. *Avalanche! Hasty Search* is an honest and sincere look at the life and times of avalanche rescue dogs and the families who are owned by them. Patti Burnett has done a fine job of pulling together avalanche facts, stories, and personal vignettes, while also interweaving her personal training advice to SAR rescuers who work with dogs. What I enjoy and appreciate the most about this book is Patti's take on how to treat your animal. With love of course! If you are looking for a book about harsh training methods, look elsewhere, because Patti's approach to dog handling takes into account the health, well-being, and general safety of her animals.

When you read about Patti and her husband going in two separate directions for a hasty search, while their children help pack their meals and get their gear ready, you realize how committed Patti really is to search and rescue. Patti explains new SAR rescue team dynamics in "Join the Club," including the counter-productive negativism, which all of us have probably experienced at one time or another. Patti also satisfies us ski patrol top house readers with a solid 50 plus pages of avalanche stories, complete with "odes to the dog" poems, rescue logistics, and victim outcomes (mostly deceased). Even though Patti sings their praises and demonstrates the importance of rescue dogs in SAR activities, she doesn't pretend her dogs are miracle workers.

For example, she makes a very good point which is appropriate in more than one instance. "How Much Do I Blab?" she asks. The message is, don't draw attention to yourself. Unless your dog is bombproof she says, other rescuers might stop what they are doing and focus on one dog's activity. There's another time when her dog is attacked by an outsider's dog who shouldn't have been on scene in the first place. Patti certainly handles this tricky situation much better than I would have in the same situation.

What you will find in this book is a wealth of information about avalanche rescue techniques in general, and avalanche search dogs in particular. If you are considering using rescue dogs, Patti's book will open your eyes to the high commitment level required. She also offers a reality check for those who may want to jump on board. Don't assume that your family pet will make a good rescue dog. Patti takes you through the life of Hasty, her first SAR rescue dog, from his puppyhood to the end of his life.

Packed with photos, *Avalanche! Hasty Search* is a must-have for any SAR bookshelf, whether or not you are a dog handler. As an aside, here at Cherry Plain Sanctuary farm we have multiple rescued animals, including three dogs, four llamas, a goat and five cats. I can tell you from personal experience that Patti is the real thing. She surely deserves the title of "Avalanche SAR Dog Whisperer." Her gentle training techniques and great love are a beautiful testament to the SAR community and to the dogs themselves.



About the reviewer:

Jules Harrell lives in Cherry Plain, NY on the MA/VT border. She is a 52 year old ski patroller for Jiminy Peak, a SAR volunteer for Berkshire County, a permaculture farmer, a beekeeper, an animal tracker, and a former EMT/firefighter with the Bolinas Fire Department in Marin County, California.

Jules has written three books: *A Woman's Guide to Bikes and Biking* (Bicycle Books, 1999), *A Woman's Bike Book* (Owl Publications, 2010), and *Tripping with Gabrielle* (Owl Publications, 2011). For more about life with rescued dogs, cats and llamas at Cherry Plain Sanctuary Farm, see: www.cherryplainfarm.blogspot.com

Mountains Don't Care, But We Do

An Early History of Mountain Rescue in the
Pacific Northwest and the Founding of the
Mountain Rescue Association

By Dee Molenaar

Dee Molenaar, author of *The Challenge of Rainier*, has written fascinating accounts of the legendary mountain rescues and recoveries in the Pacific Northwest. In telling these tales of triumph and tragedy, he has also traced the formation and evolution of the mountain rescue groups that carried out these missions.

"The old master has done it again, pulling from personal experience and scholarly research, a vital and vibrant history of mountain rescue in the Pacific Northwest to celebrate the Mountain Rescue Association's 50th anniversary."

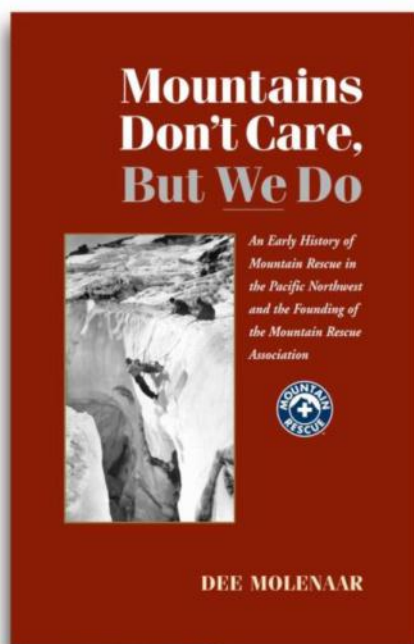
Tom Hornbein

"Mountains Don't Care, But We Do, by Dee Molenaar, is a must read for those who enjoy high adventure and want to know the history of the Mountain Rescue Association."

Jim Whittaker

"Mountains Don't Care, But We Do, is a modest way of saying 'thank you' to the hundreds of mountain rescue volunteers who have come before us. We hope that they would be as proud of today's groups as we are of them."

Charley Shimanski, President
Mountain Rescue Association



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