I have to be honest – I had no idea how much work it would be to get our 1st edition out a few months ago. This issue reflects some changes resulting from some of the feedback we received from our readers. We hope we can continue to produce a magazine that is useful to SAR providers, other first responders, and the rest of our audience.

As winter begins to lose its grip on many of our jurisdictions, we face new challenges. As snow changes to water, the outlook for flooding is not good. (https://www.noaa.gov/media-release/spring-outlook-historic-widespread-flooding-to-continue-through-may) Flooding presents a broad spectrum of risk to responders. The flow of the water, topography, obstacles and strainers, and the presence of potential contamination are all factors we must deal with. My advice is that you prepare in advance and determine the parameters under which your team will function. We have lost too many of our fellow responders to moving water. Beware.

NASAR is continuing to develop and field new training programs and supporting materials. Three of our newest on-line courses are SARTECH III Mounted; GPS Endorsement, and Hazardous Materials Awareness. We are fielding the Instructor Support Materials for the Fundamentals of SAR to NASAR Instructors to accompany the new text.

We have added new field guides for Initial Actions; Wilderness Emergency Care; Essential Knots; and RADeMS Response Assessment.
A Memorial Day We’ll Never Forget

Brian Brown

It was Memorial Day weekend of 2012. My family and I planned a trip to visit our oldest daughter Tabitha who lived in Mountain Home Idaho. The plan was to take my personal airplane, a Cessna 172 with me, a career Fire Captain of 25 years, my wife Jayann, and younger daughter Heather who was 26 years old. We started our flight out of Lodi California on a beautiful day. When I checked the weather, it showed that there was a storm front over the Owyhee Mountains, but the front was moving east and should be passed by the time we reached that part of our flight. We departed Lodi and the flight went as expected along and over the Sierra Nevada mountains. We made a planned stop in Susanville California for fuel, a bathroom stop, and I checked the weather along the route again. I was concerned getting the weather report and hearing it had not moved as fast as previously expected so we decided to wait things out a bit, by eating lunch and killing some time for the weather to move out.

After a good lunch we returned to hear that the weather was moving again and the opportunity to make it over the Owyhee’s was once again a possibility. We loaded back into the plane and departed for Mountain Home. As we were approaching the Owyhee’s I saw the front still hanging over the area but not producing any rain so I decided to proceed. After a few minutes passed the clouds started producing a rain so hard we could not see through the windshield. I made an abrupt 180 degree turn back out of the weather and hit the “direct to” button on my GPS so it would tell me where the five closest airports were. The closest airport was Rome State so I headed directly for it. When we flew over Rome State Airport, I told Jayann and Heather “you gotta be kidding me” as we saw nothing but a large gravel runway in the middle of nowhere with no buildings for shelter. At this point it was best to be on the ground, so I gently put the plane down the gravel runway. We sat there in the plane for several hours. I used the time to recalculate my time, distance, and fuel figuring out how long we could wait the storm out before I ran out of daylight to fly over the Owyhee’s. Something I was not going to attempt in the dark. We waited almost to the point that we could not leave with enough daylight to finish the final leg of our flight and then like you see in the movies, hearing the angels singing, the weather had broken up creating a huge clearing. I took off again and headed over the Owyhee mountains. The flight was going as smooth as to be expected, but then just as fast as the weather cleared, it started to close in on us and actually forming right in front of us. I had to divert from a straight-line flight path several times and could not turn back ending up putting my family and I in the worst place we could have possibly been, which was just under the clouds and only a few hundred feet above the terrain. At this point the flight was very rough and I had never been so busy as a pilot as I had been at this moment. I was scanning the weather,
the terrain, and the instruments in the aircraft. We were about 29 minutes from Mountain Home passing over a ridge line when I scanned the instruments and saw my airspeed drop from 110 mph to 40 mph and it would not recover. I knew we were going to stall so I pushed the nose of the plane into the canyon to try and keep flying the airplane. With no place to land and the rough terrain below, I told Jayann and Heather “I loved them and I was sorry, I don’t think we are going to make it.”

Right before we made impact which was just only a few seconds after the stall I felt the controls coming back and I pulled back to fly out of the canyon. We hit two trees with the wingtips and impacted the mountain belly first. For Jayann and I, our world went black as we were knocked unconscious from the impact. I was only knocked out for a few seconds and I remember coming to thinking WOW! We are still alive! I can’t believe it! My rejoice did not last long as I could hear Heather screaming for her mother. When I looked over at Jayann’s side of the plane, the door was ripped off and she was hanging out of the plane like a rag doll. The only thing holding her in was the seatbelt and Heather holding her mom by her shirt. She had deep snoring respirations, her eyes were rolled into the back of her head. My first thought was Oh my God, I just killed my wife. I immediately grabbed Jayann and pulled her back into the plane and opened her airway. My blood was dripping all over Jayann while I was working over her as Heather and I kept calling to her. What seemed like an eternity but was less than a minute, Jayann opened her eyes and said “I’m Okay, I’m still here”. I was so overwhelmed and grateful, all I could think at that moment was praise God, we are all alive. I moved Jayann into my seat because it was more stable and she would have a door next to her. I climbed into the back of the plane with Heather to check on how she was doing. Heather complained of her hips hurting where the seatbelt was but otherwise just very scared. Heather helped me gather what we could find for equipment and
safety gear as the impact scattered much of the airplane contents all over the floor and deep into the tail of the plane. One of the most significant things we had found was my portable aviation radio. I turned it on and made sure that the planes emergency beacon had activated and thankfully it did. I checked the stability of the plane because we were settled on a slope of about 60 degrees. The plane was pretty secure, so I told the girls that I was going to hike up the mountain a few hundred yards to try and transmit a mayday. Jayann was still drifting in and out of consciousness so it didn’t matter much to her, but Heather was very concerned. She told me not to go because I was hurt too bad. At that point I realized how much I was bleeding. I had gone partway through the windshield and had split my head open and it was bleeding pretty heavily. I also had a large cut in my forearm that exposed some bone.

I knew that I had to try something, so I did hike up the mountain and tried to transmit the mayday getting no response. Our luck got worse at this point as it started to snow. I grabbed what firewood material I could find but most of it was just completely soaked. After a failed attempt to start a fire using the fuel from the airplane and starting to run out of daylight, I decided to shelter in place in the aircraft for the night. I found the door that was ripped off, and I was able to secure it enough to keep us warmer.

We had a blanket that Heather insisted that her mother and I share while Heather put on extra clothing. Heather asked me “What now”? I told her we would wait until morning and hopefully Tabitha would call for a search since we hadn’t arrived. In the meantime, knowing that Jayann and I suffered head injuries and that we were all threatened with hypothermia, I asked Heather to help keep us awake by calling out our names every few minutes making sure we would respond. from nightfall to about midnight we answered Heathers roll call. This is when the most amazing thing happened. During the silence in between roll calls, Jayann’s cell phone rang and lit up the cockpit startling us all. Heather found two phones in the debris seeing that it was Tabitha calling, but we missed the call. Heather dialed over and over again with a nearly dead phone and an intermittent signal finally making contact with 911. She placed the call on speaker and we heard the dispatcher “Owyhee county 911, What is your emergency?” We were able to tell the dispatcher where we departed from and where we were headed, who we were and what our injuries were. She launched a helicopter. It was the next morning that the helicopter was close enough to see us and when I reach down to light the signal fire they flew right over the top of us. I used my phones camera flash to signal them and they went into a hover. At that point I knew we would be saved. In the following hours rescuers from Idaho Mountain Search and Rescue, Air Saint Luke’s, Owyhee County Sheriff, Nampa Fire, Idaho National Guard and even private citizens in the mountains were helping package and provide aid for us. As it turned out, I suffered a minor concussion, a broken nose, a broken right arm, a lacerated left arm, and a few broken ribs. Jayann suffered a concussion as well. Her core temperature in the hospital after some warming during the rescue was 92 degrees. Heathers temperature was about the same and she suffered deep tissue bruising from the seat belt.

Six years later we are all doing well with new grandchildren that we may never have been able to have or see if it wasn’t for your efforts. I am retired now but spend my time performing air safety lectures for pilots to explain the errors I made on our flight, hoping to keep others from making the mistakes I made that day. I provide speaking for Christian groups, as well as motivational/ thank you for Rescuer groups.

My Family can never say Thank you enough for all that you do! You were there for us on a holiday weekend, taking time away from your families and putting yourselves in harm’s way for us. We are eternally grateful and will never forget you!

You can read our entire story in the book titled “Rescued: One Family’s Miraculous Story of Survival”.

▲
and Decision Making Support to the Bookstore.

As a reminder to our members, we have elections for the Board of Directors coming up in July. There are two Board member positions to be voted on. Nominations for candidates must be made to the Secretary by June 30, 2019. If you or someone you know is interested in running for the Board, the election process is outlined in Article VI of our Bylaws, which can be found on the NASAR web site.

I had the privilege of meeting with a great group of K-9 handlers on February 24th in Tempe, AZ. They were participating in a K-9 Wilderness First Responder program hosted by NASAR. The SAR K-9 world has some of the most dedicated folks involved in our profession and the enthusiasm for those involved in this program was obvious. Also, a shout-out to the members of the Arizona Wing of the Civil Air Patrol who provided a tremendous amount of support for the program.

Finally, my wife Ellen and I spent 49 days on the road during February and March. (Yes – we ran away from the snow and cold of Idaho!) We travelled through four states with most of the time being spent in Arizona. As we followed the news, there were numerous stories regarding responders from all disciplines being involved in emergencies involving severe weather conditions across the country. As I watch TV or read the news, I pray for their safe return to home and their loved ones. Many of us are involved in not only SAR, but other service professions as well. We all know what it is like to be dispatched to events where the weather is horrible, but our service is needed. I commend all of you that are dedicated to serving your fellow humans and animals in whatever role you play!

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NASAR recognizes that SAR responders operate in extremely varied environments. In consideration of local environments, legislation, circumstances, or team standards, NASAR has compiled this Consolidated Pack Guide. Using the ASTM F2209 standard as its foundation, this guide is the single publication that documents all NASAR program pack recommendations. This guide supersedes all previous pack standards and guidance. The NASAR Consolidated Pack Guide has been developed to provide guidelines to consistently review the contents of a searcher’s pack, to ensure that the contents provide for the core capabilities required for the NASAR program in the searcher’s response environment. The SAR 4-hour pack is designed to prepare a sole searcher on a field assignment for up to 4 hours with no outside logistical or re-supply assistance. The searcher is expected to wear or carry (layers) clothes/uniform appropriate for the response environment, circumstances, duration and task. It is also expected that the searcher will have the supplies necessary to assist and support an injured victim (or injured searcher) for a portion of the 24-hour assignment. The recommended equipment falls into several required core capabilities a searcher must be able to perform:

- Survival / First Aid / Signaling
- Self-Rescue • Hygiene / Personal Items
- Navigation • Communications
- Light Sources
- Clothing & Personal Protective Equipment
- Shelter
- Food & Hydration
- Load Bearing / Packs
- Search
- Resource Specific [(determined by the Authority Having Jurisdiction (AHJ) ]
- Mission Specific (determined by the AHJ)

For efficiency, it is recommended that items selected for your 24-hour pack have multiple uses. For example, alcohol wipes can be used as a disinfectant or as a fire starter. Any item that has more than one use helps lighten and consolidate your pack. You can further conserve weight by standardizing the battery used by your communications, lighting and navigation electronics. A lighter pack makes for a more effective search responder. Setting up your 24-hour pack does not have to be overly expensive. You can save yourself some money by taking advantage of generous pro deals available to NASAR members (e.g. Promotive) or your local team. Most importantly, train with your 24-hour pack in conditions similar to those to which you will respond.

SNOW WRITING LED TO YOUNG SKIER'S RESCUE

PALO ALTO (AP)—Thirteen-year-old Douglas Grimsmore, who was stuck in a mountain snowstorm for 20 hours, says he knew he would be rescued if he stamped out a giant “SOS” in the snow and walked in circles to keep from freezing. "I won't ski alone anymore," he said Tuesday. "I was lucky. But I knew that if I wrote something in the snow, someone would notice it."

Grimsmore was rescued Monday by a ski resort employee who saw the "SOS" and followed the boy's tracks. When it was over, he hugged his mother and said, "You were worse off than I was. I knew I was safe."

The eighth-grader was lost while skiing down the back side of a mountain at a Dodge Ridge Ski Resort, about 150 miles east of San Francisco. His parents and 11-year-old sister Samantha were sitting on another trail. "I just got mowed up skiing between two chairlifts," he said. "There was no one left on the slopes and it was getting dark."

Grimsmore said he panicked briefly when darkness fell Sunday, but regained his composure and spent the night walking. He said that he had learned trail-blowing techniques last summer at day camp, and that the camp counselor discussed the importance of writing in the snow. First, he took off his skis and walked in circles in his heavy ski boots. Snow piled up on his pants. "It snowed most of the night," he said. "It was tiring," he said. "It was the first time in my life I had been up all night. Whenever I stopped walking, I felt cold. I knew I had to keep walking."

At dawn, when it stopped snowing, he decided to stamp the "SOS" in the snow. "It was the shortest, and I guess most effective, word I could think of," he said.

Lt. John Steely of the Tuolumne County sheriff's office said 40 persons were searching for the boy. Seven inches of new snow fell during the night, and temperatures dipped to 30 degrees, but Grimsmore was dressed in a ski parka, several sweaters, and nylon ski pants over his jeans. Deputies said the youth had walked about six miles. "It was scary at first," he recalled. "But I knew that if I didn't pull myself together I'd freeze to death... I kept thinking about someone coming and finding me. I knew there would be a lot of people out there. I thought of what clues would help them find me... I would like to go skiing again soon, but I don't know who's going to be willing to take me there."

—From Los Angeles Times, January 19

PLANE SIGNAL LEADS TO GARAGE

An aircraft distress signal had members of Utah's Civil Air Patrol and Salt Lake City Police knocking on doors early Sunday (7/23/78) morning near Sunnyside Park in an effort to locate the caller.

The signal, emitted by an emergency locator transmitter (ELT), was picked up by Air Force and commercial aircraft flying over the Salt Lake area, according to Capt. Jane Wellman, CAP information officer. The Utah Division of Aeronautics alerted CAP last Saturday afternoon.

Two aircraft were sent up to locate the signal, which they accomplished with some difficulty. "The signal was so intermittent and conflicting, it took 45 minutes to track it," said Lt. Col. A. M. Webb, CAP Mission coordinator.

The planes honed in on the signal, reporting it near the mouth of Emigration Canyon, and ground teams were sent in with hand receivers to pinpoint the location. By around 1 a.m., they had narrowed the signal to four homes on Michigan Avenue. CAP members called Salt Lake City police to help them approach residents.

Two residents were contacted without success, but one reported a neighbor was building a plane in his garage. When awakened, the neighbor confirmed he had just bought an ELT, which had apparently been activated by his curious children.

"He was embarrassed as we were tired," said Wellman. The device was turned off at 3 a.m.

False ELT signals should be found and turned off quickly, said Webb, because in some instances the false signal can block out a real distress signal.

—Deseret News
Many of you are aware that Canada has a SAR response system that is well organized at a national level and utilizes resources from agencies as well as volunteer groups through SARVAC. In May of 2015 SARVAC working with the Canadian SAR Secretariat and the Canadian Standards Association (CSA) produced their Core Competency Standards for Ground Search and Rescue Operations. The standard is built around three positions; Searcher, Team Leader, and SAR Manager. This is a much simpler resource model than the ASTM model, but it is much more complete when it comes to knowledge, skills, abilities and observables. The standard is known as the Z620-15.

In July of 2016, the same groups published the Z625-16 standard called the Training Curriculum Standards for Ground Search and Rescue Operations. This is the complete competency-based guidance for developing teaching curriculum for the Z620-15 standard. It is based on a number of adult learner strategies and utilizes Blooms Taxonomy for assessment purposes.

Both the Z620-15 and the Z625-16 documents are extremely well thought out, designed and thorough. They are supportive and complimentary of each other.

The next step is the design of the accreditation and certification process using the standards that have been published. NASAR was invited to be a part of this process through the advisory committee. I am participating on the committee at SARVAC’s invitation and recently attended a meeting in Toronto where the group began discussions on accreditation and certification models. I was able to provide the group with some samples including how NASAR works, how the new AORE (Association of Outdoor Recreation Education) certification works, and how the Mountain Rescue Association process works. The group discussed how the system needs to be sustainable, contextual, and should be able to grow into multi/all-hazards. They also discussed the area of governance (authority, decision making, accountability) and how it would be implemented. All of this is being guided by the CSA in structured workgroups, design breakouts and conversations.

The next meeting is in Winnipeg in June. NASAR wants to thank SARVAC for honoring us with the opportunity to work with them on such a valuable project.

Additional information is available on their web site at www.sarvac.ca
Invisible wounds: First Responder Stress

Craig E. Spieker

When we respond to a call for help, it is hard for responders to tell what the extent of a person’s injury is if they are not showing any signs of pain. The same holds true when it comes to treating and identifying psychological wounds. Unless someone is suffering from high levels of anxiety, you may not recognize it. We need to learn how to recognize the signs and take care of ourselves and each other.

Whether you have responded to a gruesome deceased subject scene, searched for a missing child where the outcome was not good or been exposed to a different tragedy on a scene, we as Search and Rescue professionals are far more likely to experience a traumatic event than that of an average person on the streets. Though these “worst case” scenarios can be extremely damaging to one’s mental health, it is typically the accumulation of smaller incidents that build up over time and take a very serious mental toll. The honest truth? Stress is the very ember that may cause a raging forest fire if left unchecked!

We all tend to work challenging schedules in our normal day to day lives. We then respond at a moment’s notice when the phone rings for a call out. Lack of sleep can deprive the body of serotonin and dopamine that affect our moods. These call outs can also cause us to interrupt or miss important events such as anniversaries, birthdays and holidays that can cause problems in our home lives. It also makes exercising regularly and eating on a normal schedule, or eating the proper foods near to impossible. Mix these with the excellent pay and benefits that we receive for responding to a call-out and that makes everything good, right? I don’t think so. Most of us are volunteers that not only do this work for free, but we also have to buy our own gear and equipment to respond with. This can lead to financial hardships if we are not careful. While each of these alone may not seem too significant, piling them up can very easily weigh one down. For example, a long day and night of searching can lead to a not so pleasant subject find. We then return home to a family that is not too happy with the fact that you left on an important day which can lead to an argument. Then add the fact that you are behind on some bills. These factors can add up very quickly to extremely high levels of stress and anxiety.

How do we recognize stress?

Stress can come in both cognitive (thoughts and feelings) and physical (things we can physically see) forms. Some examples include pacing, noticeable weight loss or gain, mood swings, irritability, personality changes, sleep deprivation, lack of motivation, loss of interest in things that were once important to us, nightmares, flashbacks, avoidance of people, places or things that remind us of the event, feeling jumpy, on edge or are very easily startled and/or problems with alcohol or drugs. Any indication that an individual is suddenly not themselves should be taken seriously and followed up with further conversations and appropriate action.

How do we help?

First, we must understand that WE ARE NOT ALONE! Trauma is a normal response to an abnormal situation. If you had no reaction to a horrible event or having the feeling of helplessness at times, it would be very abnormal. We are all wired differently on how stress and trauma affects us. We can all build a resiliency to it, but left unaddressed, can lead to much, much more.

Next, we must also get rid of the old cliché that we are invincible and nothing we see, hear or do will ever bother us. For those that have been in public safety services longer than 10 years, you know what I
am talking about. For those that have not, there once was an attitude that if you dealt with a horrific call, you needed to “bury it”, “deal with it” or “suck it up”. For most that meant go home and consume copious amounts of “refreshing adult beverages”, which lead to a spiraling decline. If you said something about your feelings or admitted that you needed help, you were labeled as weak, a wimp, or any other adjective that you want to insert here by your peers and you were classified as not fit to perform the job any longer.

This is simply not the case any longer. We need to get that stigma out of our brains. A chain is only as strong as its weakest link. A responder can sometimes feel like the weakest link, if we allow our stigmas to get in the way of reality. In public safety training, we always stress the importance of safety and the “two in, two out” rule. A fellow brother or sister responder should NEVER feel alone in any battle they face! Regardless of rank or position, we should always be looking out for one another. Get to know the responders that you are working with so you can identify when something “seems off”. If you do identify something, do not be afraid to confront the issue. We all make life or death decisions in the roles we play as responders but it seems that we are too afraid to talk to our brothers and sisters about the things that could also have life or death implications! We MUST take the time to listen, empathize and help them repair what has been damaged. Sometimes all they need is someone to listen and not problem solve, but to listen and assure them that things are going to be ok. Other times they need something more. If they are struggling to cope and exhibiting signs of severe stress discussed earlier, make a recommendation that they seek professional help though a peer support team or an Employee Assistance Program (EAP). Then set an alarm on your phone to follow up 24-48 hours later to support them, which may also take the form of urging them to seek this help.

Nothing will shut down a brother or sister quicker than downplaying their stress or making light of it. Regardless of what you think, stress is relative. What affects you may not have the same effect on someone else and vice-versa. For example, let’s look at the pain scale chart of 0 to 10 with 0 being no pain and 10 being the worst pain you have ever felt in your life. A broken finger may be a 2 for some and an 8 for others. Coping with stress is no different. For instance, the death of a pet may be a 3 on one person’s scale but extremely devastating for another and be a 9. Making a conscious effort to see things from others’ views can make you more helpful in the long run.

Helping them stabilize and manage the stress by engaging in self-care techniques does not mean that we are getting them “back to normal?” Quite the opposite. The old “normal” will never be felt again. We will be helping them get to a “new normal” that will need to be managed and understood from that point forward.

Do not forget to acknowledge our own problems! It is sometimes much easier to see the signs of stress in our brothers and sisters than it is to see in ourselves. Give your brothers and sisters the “green light” to approach you and identify your moods or behaviors that they are identifying. Do not get upset or angry with them. Be extremely thankful that they are taking the time to care about you and making sure that you are alright. Spend time listening and then reflect on what they have said.

What is self-care?

Table one piece of machinery that does not require routine maintenance. Can you think of one? I can’t. Our Search and Rescue equipment and vehicles all need to be maintained and kept ready to deploy at all times. The human body is no different! Actively engaging in self-care addresses our mental health, takes note of our current stress levels and takes action in addressing these issues. In the public safety world we spend so much time helping others that we sometimes forget to take care of ourselves!

Engaging in self-care is nothing more than doing something that makes us happy. For some it may be
going to the gym. For others it may be hunting, fishing, hiking, camping, building models, painting, reading a book, or crafting. ANYTHING that you get enjoyment out of. Whatever your passion, you need to continue doing these things in order to keep you happy. Once we stop taking time out for ourselves, we become overwhelmed and stressors build to a “raging inferno”. There is clear evidence that myocardial infarction, stroke, depression, anxiety, and even some disease-prone immune processes, including pro-inflammation, are all common disease denominators that are critically associated with stress. (Tobias Esch, 2013) Stress may not be preventable but if we learn to better manage our stress, we can become better responders and prevent adverse health effects.

**Addressing Burn-out and suicide**

A common term that is becoming more widespread across our profession is “Burnout”. Burnout occurs when we do not participate in self-care activities and allow the stresses to build out of control. According to the National Fire Academy (NFA) about 100 firefighters die annually in the line of duty. More than half of those deaths are from sudden cardiac arrest. All the more reason for self-care and physical health standards.

Here are the staggering numbers. In 2018, at least 159 police officers, 103 firefighters and 63 EMT/Paramedics committed suicide. Unfortunately, the actual suicide number is much higher than that. Because there is no mandatory reporting for responder suicides, FDIC International estimates that only 40% of suicides are even reported. (Ali, 2017) That means that around 455 first responders committed suicide last year. The Journal of Emergency Medical Services reports in a 2015 survey of more than 4,000 first responders, that 37% had contemplated suicide and almost 7% had attempted it. That is more than 10 times the rate of the general population. (Fisher, 2018)

Due to the staggering number of attempted and completed suicides, we should all reflect in what we are doing to take care of ourselves. Whether it is working out at the gym, engaging in an outdoor activity, trying your hand at your artistic capabilities or taking a simple 5 minute break in a quiet room, do not neglect self-care. It is the on-going maintenance that we need to take care of ourselves, our brothers and sisters and the communities that we serve. ▲

Craig E. Spieker
Craig is a NASAR SARTECH I, Member, Board Director, Instructor and Lead Evaluator. He is a US Army combat veteran and a retired Police Officer with over 29 years of Law Enforcement experience, serving in the patrol division, SRT, Police Diver and an instructor. He still serves as a Sheriff’s Office Reserve Deputy and is the coordinator for the County Underwater SAR Team. He is now the Asst. Chief/Paramedic with Hancock EMS. He is also a Captain/Medic and Haz-Mat Technician with the Liberty Township Fire Department. He is also a Haz-Mat Technician with the Findlay/Hancock County Haz-Mat Team and a member of the Northwest Ohio CISM Team. He has over 10 years as a Captain with the Ohio Special Response Team, which is an associate member team of the Mountain Rescue Association, serving as the Commander of Unit 2 and in the Training Division. Additionally, he is a member of North East Ohio-SAR (NEO-SAR), the Fortune Bay Expedition Team and the Tyler County OEM Search & Rescue Team.
Heat-related Illnesses and First Aid

Although all SAR providers are expected to have basic knowledge of first aid, this article is applicable to everyone including some of the non-SAR readers as well as supporting Preventive SAR programs.

*Heat stroke*, the most serious form of heat-related illness, happens when the body becomes unable to regulate its core temperature. Sweating stops and the body can no longer rid itself of excess heat. Signs include confusion, loss of consciousness, and seizures. **Heat stroke is a medical emergency that may result in death!** Call 911 immediately.

*Heat exhaustion* is the body’s response to loss of water and salt from heavy sweating. Signs include headache, nausea, dizziness, weakness, irritability, thirst, and heavy sweating.

*Heat cramps* are caused by the loss of body salts and fluid during sweating. Low salt levels in muscles cause painful cramps. Tired muscles—those used for performing the work—are usually the ones most affected by cramps. Cramps may occur during or after working hours.

*Heat rash*, also known as prickly heat, is skin irritation caused by sweat that does not evaporate from the skin. Heat rash is the most common problem in hot work environments.
The chart below shows symptoms and first aid measures to take if a worker shows signs of a heat-related illness.

<table>
<thead>
<tr>
<th>Illness</th>
<th>Symptoms</th>
<th>First Aid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat stroke</td>
<td>- Confusion</td>
<td>- Call 911</td>
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<tr>
<td></td>
<td>- Fainting</td>
<td>While waiting for help:</td>
</tr>
<tr>
<td></td>
<td>- Seizures</td>
<td>- Place worker in shady, cool area</td>
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<tr>
<td></td>
<td>- Excessive sweating or red, hot, dry skin</td>
<td>- Loosen clothing, remove outer clothing</td>
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<tr>
<td></td>
<td>- Very high body temperature</td>
<td>- Fan air on worker; cold packs in armpits</td>
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<tr>
<td></td>
<td></td>
<td>- Wet worker with cool water; apply ice packs, cool</td>
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<td>compresses, or ice if available</td>
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<td></td>
<td></td>
<td>- Provide fluids (preferably water) as soon as possible</td>
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<tr>
<td></td>
<td></td>
<td>- Stay with worker until help arrives</td>
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<tr>
<td>Heat exhaustion</td>
<td>- Cool, moist skin</td>
<td>- Have worker sit or lie down in a cool, shady area</td>
</tr>
<tr>
<td></td>
<td>- Heavy sweating</td>
<td>- Give worker plenty of water or other cool beverages</td>
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<tr>
<td></td>
<td>- Headache</td>
<td>- Cool worker with cold compresses/ice packs</td>
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<tr>
<td></td>
<td>- Nausea or vomiting</td>
<td>- Take to clinic or emergency room for medical</td>
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<td></td>
<td>- Dizziness</td>
<td>evaluation or treatment if signs or symptoms worsen</td>
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<tr>
<td></td>
<td>- Light headedness</td>
<td>- or do not improve within 60 minutes.</td>
</tr>
<tr>
<td></td>
<td>- Weakness</td>
<td>- Do not return to work that day</td>
</tr>
<tr>
<td></td>
<td>- Thirst</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Irritability</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Fast heart beat</td>
<td></td>
</tr>
<tr>
<td>Heat cramps</td>
<td>- Muscle spasms</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Usually in abdomen, arms, or legs</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat rash</td>
<td>- Clusters of red bumps on skin</td>
<td>- Have worker rest in shady, cool area</td>
</tr>
<tr>
<td></td>
<td>- Often appears on neck, upper chest, folds of skin</td>
<td>- Worker should drink water or other cool beverages</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Wait a few hours before allowing worker to return to</td>
</tr>
<tr>
<td></td>
<td></td>
<td>strenuous work</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Have worker seek medical attention if cramps don't</td>
</tr>
<tr>
<td></td>
<td></td>
<td>go away</td>
</tr>
</tbody>
</table>

1 Remember, if you are not a medical professional, use this information as a guide only to help workers in need.

The Team Leader

Mike Vorachek

Many of us know someone we consider to be a good leader. We have encountered leaders we liked in a lot of venues, from work, recreation, and the military to name a few. We’ve all probably had good bosses and some not so good ones. I think the first time I was ever exposed to basic leadership was in the 1960’s as a Boy Scout. We had job titles with the word leader in them and we were expected to do good things as we worked our way through the Scouting program. Fast forward to my retirement after 34 years in the military and the memories of many leaders I met along the line make me smile. I still remember a few individuals I really admired because they not only knew what they were talking about, they could convey it to others and make you want to go along with them.

In his book *On Becoming A Leader*, one of my most respected authors, Warren Bennis, states: “Leadership is like beauty: it’s hard to define, but you know it when you see it.” I have been fortunate to be able to be exposed to a lot of knowledge, skills, and abilities (KSAs) expected from leaders. Some of these have stayed with me and I’ve been given opportunities to employ them in a small unit leadership environment. Our SAR teams are classic examples of small groups of individuals banding together to perform a series of tasks. For most of us that have been in SAR for a period of time, we have seen operations where leaders emerge and take charge in difficult situations. If you look into their background, you will probably find that they were good followers who showed up at training and wanted to participate in any role they could. They built their KSAs over time, imported some from other life experiences, and grew into the team.

In its chapter on Leadership, *Mountaineering – The Freedom of the Hills* presents traits for leaders of climbing expeditions. The book identifies two broad categories of leadership styles; goal-oriented and relationship-oriented. The authors go on to say that most people lean towards one style or the other, but it is not an either-or choice. For those SAR folks that have been involved in climbing and/or technical rope rescue, you recognize that decisions may have to be made rapidly and often while under stress. A well-organized technical rope team generally sees both types of leadership styles in team operations. The team members that place the anchors know that those who are on the ropes trust them with their lives and there is no room for error. Having a trusting relationship among team members while working in a high angle environment is absolutely critical to the success of the mission. At the same time, the leadership must be focused on the goal of getting the rescue system in place and members on the ropes quickly are also critical for success.

Add in complicating factors such as environmental conditions, remote locations, the condition of the victim(s) and the leader’s ability to make and communicate decisions becomes acute.

Hopefully your organization spends some time and effort into developing your leaders. This is a never-ending process as people join, serve, and too often leave the organization. Another observation – most folks don’t jump up and down and say “pick me” when you are looking for a leader. Someone needs to take the time to talk with potential candidates and ask them if they are interested. If you can get someone to say they will try and take on a leadership role, you are half way there! Your organization should also be tolerant and respectful as new leaders grow. I don’t know of any leader that has not made mistakes during their career. As long as you have a process to make sure that mistakes do not create an unrecoverable error or create an environment that might result in injury or death – be tolerant and let them grow!
A good team lead by the right person can accomplish difficult tasks under the most demanding circumstances!

One tool for developing leaders and all team members is to ensure that you conduct an effective after-action review of training and operational missions. A short discussion on what was done, what went well, and what could be improved can do a lot for team cohesion. Remember that on many operations, not everyone sees all that occurred and there may be very different perspectives. With a culture of keeping AARs positive you will see greater interest and involvement. If a member needs individual attention – take care of it in private. Finally, good leaders are always listening. Seek feedback and learn from it! ▲
NASAR believes that all SAR personnel, as well as those who engage in wilderness activities should have some knowledge of what to do when things go wrong. To that end, we offer two courses for basic wilderness medical care. Basic Wilderness First Aid is based on an eight-hour program of instruction and provides a good primer for those who are interested in outdoor sports. The sixteen-hour Wilderness First Aid covers:

- Patient assessment
- Environmental hazards
- Wilderness wound care
- Bites, stings, & allergic reactions
- Bone and joint injuries
- Injuries affecting vital organs and functions
- Medical problems in the wilderness
- Wilderness first aid kits

Our 16-hour WFA course is a great opportunity for SAR team members and other outdoor enthusiasts to learn the skills to take care of themselves and others in the wilderness. The knowledge, skills, and abilities provided by the course are also applicable to post-disaster environments where critical infrastructure in compromised and normal emergency medical services or hospital care may not be available or delayed.
For years NASAR has been the leader in providing search and rescue K9 training and certification programs. In 2018 NASAR launched the “Wilderness Emergency Care” program to provide Wilderness Emergency Care training programs for the SAR and outdoor community. WEC training courses include Wilderness First Aid (WFA), Wilderness First Responder (WFR), and Wilderness EMT Upgrade (WEMTU). In February, NASAR brought these two highly successful programs together in Scottsdale, Arizona, offering the first NASAR SAR K9 Wilderness First Aid course, “WooFA”.

Providing care for their K9 partners is one of the K9 handlers’ primary responsibilities. In order to support this important responsibility NASAR joined with the Civil Air Patrol Arizona Ground SAR Team K9 Unit to present this new training resource. The program is based on the Wilderness First Aid curriculum adjusted for the K9 patient.

Approximately 12 years ago the Arizona Wing of the Civil Air Patrol/USAF Auxiliary reorganized their ground search and rescue members into a single statewide, consolidated search and rescue team. Arizona Wing Ground Team Members are NASAR SARTECH and WEC certified. The Arizona concept of consolidated training, alerting, and deployment has proven to be quite successful. The Arizona Wing Ground Team has twice been awarded Civil Air Patrol National Ground Team of the Year. In order to expand the team’s capabilities the Arizona Wing Ground Team initiated a K9 Unit in 2015. The CAP K9 teams are NASAR certified in their various specialties. Currently there are 10 CAP K9 handlers and K9s located around the state. The Arizona CAP Ground SAR Team and K9 Unit provide SAR resources for the county sheriffs and other state, local, and federal agencies within Arizona.

There is a vast array of first aid or medical training classes for care of K9s ranging from “pet care” to “tactical/SWAT” courses focusing on major trauma and gunshot wounds. The Arizona CAP K9 Unit began searching for medical training for its K9 handlers. In the smorgasbord of training options we were not able to find a course that was SAR K9 specific. It became apparent that the team was going to have to develop its own training course. Members began networking, researching, and planning for a course that could meet the SAR niche.

Enter Dr. Wayne Svoboda, DVM, MS of Hayden Road Animal Hospital, Scottsdale, Arizona. Dr. Svoboda is the lead provider of K9 medical care for public safety K9 teams in central Arizona. He is the team doctor for agencies such as Phoenix Police Department and Arizona Department of Public Safety/State Troopers. “Dr. Wayne” provides medical care for public safety K9s, K9 medical training for law enforcement and fire service paramedics including advanced tactical trauma training, and has been called upon...
to respond to incidents involving public safety K9s injured in the line of duty. Dr. Wayne jumped at the opportunity to expand the training smorgasbord to include a SAR specific K9 Wilderness Emergency Care course. Dr. Wayne spent several months attending CAP K9 field training exercises in order to understand the specifics of the SAR K9 world.

The SAR K9 Wilderness First Aid course follows the outline of the WEC Wilderness First Aid Course. The course presumes the K9 handler is trained in wilderness first aid. The K9 WFA presentation builds on the students training in “human first aid” by following the same methodology of patient assessment and treatment. Topics include: CPR/AED, soft tissue injuries, bone and joint injuries, environmental emergencies (heat, cold, dehydration, snake bites, etc.), and medical problems specific to K9s. The students already know how to assess and treat human patients. The K9 WooFA course picks up at that point instructing students in the specifics of managing the K9 patient.

The two day, 16 hour, class consisted of classroom lecture and demonstration on Saturday. Sunday students practiced their new skills at a series of skill stations modeled after the EMT National Registry program. The student K9 handlers rotated through: ABC/CPR, Patient Assessment, Bleeding, Splinting, Medical, Environmental, Stabilization and Packaging, and IV Fluid skill stations. Each skill station had an instructor and a K9 patient. Students were able to practice all of the various skills on a real K9 patient.

The WooFA course included two wilderness SAR specific topics. These were administrating IV fluids via subcutaneous route for dehydration and heat related emergencies, and packaging and transportation of the K9 trauma patient. K9 handlers were taught how to administer IV fluids in the field to keep their K9s hydrated, or to treat a dehydrated/hyperthermic K9 patient. Instruction was also provided in stabilizing and packaging a K9 Trauma patient for evacuation via litter or helicopter. K9 Handlers practiced improvised evacuation of their K9 using the Fido Pro Airlift rescue backpack, which is available from the NASAR website store.
The SAR K9 Wilderness First Aid WooFA course was a great success. Forty students from Arizona, California, Nevada, and Utah attended the class hosted at the Scottsdale Fire Academy facility. Preparation of the class was a year long project involving many, many people. Dr. Wayne Svoboda presented a very high-speed professional class. CAP K9 Unit Leader Debee Henschen (NASAR K9 Lead Evaluator) led the CAP K9 members through the year long process. Sandy Lane (NASAR STII, WEMT & K9 Handler) coordinated the curriculum, planning, and administration. All of the Arizona CAP SAR Team K9 handlers worked on staff and instructed all of the various skill stations. Dallas Lane (NASAR Board Of Directors) was the class coordinator. As a very special treat NASAR President Mike Vorachek attended the class. Mike addressed the class, evaluated the skill stations, and presented NASARs appreciation to Dr. Svoboda. The FETCH Foundation provided lunch and class supplies.

The pilot NASAR SAR K9 Wilderness First Aid “WooFA” course was a well-received success. The NASAR Board Of Directors will be evaluating where to go from here!  

Dallas C. Lane  
Dallas has 19 years experience as a SAR volunteer with both sheriff’s office and Civil Air Patrol SAR teams. Dallas is an active member of NASAR as a SARTECH I Instructor/Lead Evaluator, Search Management Instructor, and Wilderness EMT instructor. Dallas is particularly excited to be the newest member of the NASAR Board Of Directors.
INDIVIDUAL MEMBERSHIP BENEFITS INCLUDE:

- Discounts on NASAR Courses, Certifications, Products & Books
- SARTECH 1 Fees Waived (Recert Fees Waived for STI)
- Pro Deals on Outdoor Gear Through PROMOTIVE/EXPERTICITY
- Travel Discounts Through HOTELSTORM & Enterprise Rent-A-Car
- We are Adding New Benefits and Discount Programs Continuously

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