



# SARA Monthly Update: May 2009

## SARA Callout Review

A brief overview of some of our recent calls

April 1, 2009

Rescue Linda Vista trail

A horse back rider was kicked by a horse. This caused him to fall from his horse and be unable to walk. Assessment revealed tenderness and slight swelling on the lateral condyle of the right tibia. The patient's leg was splinted using the sandwich splint (board splint) and carried to the trailhead in a stokes.

April 9<sup>th</sup> 2009

Ankle injury 7 falls trail

A 75 year old female injured her ankle between crossings 6 and 7. Teams reached her and splinted the ankle with two SAM splints. The scene was accessible by mule, but on standing the patient complained of dizziness and lightheadedness. So she was placed in a stokes basket, treated for shock and carried to the trailhead. Follow up revealed the ankle was indeed fractured and required surgery.

April 13<sup>th</sup> 2009

Ankle injury 7 falls trail

De ja vu for SARA rescuers. A female patient with and ankle injury at 7 falls. Teams hiked in to the scene and splinted the ankle. The patient was carried by stokes to the posse turn around area where she was able to ride a mule out. Follow up revealed a fractured fibula and torn deltoid ligament. Due to severe edema her surgery has been delayed for about a week. Edema occurs as part of the body's inflammatory response to tissue injury. The capillary beds become more "leaky" allowing white blood cells and nutrients to flow into the tissues (interstitial space). While inflammation is the body's first line of defense against infection; it can lead to more tissue damage and delay treatment. To reduce edema in the field follow the acronym RICE. Rest, Ice, Compression, Elevation; all were done in this call and surgery was still delayed.

To read about all of our calls this month please visit the SARCI newsletter at <http://sarci.org/newsletter>



### Training

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Recap of the monthly training and a look to next month.



### Search Theory

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New series from David Lovelock



### Drugs

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A bit about the "M" in SAMPLE

# Training Recap and a look forward

April 4<sup>th</sup> 2009:

SARA members met at the University of Arizona San Xavier Mine. The purpose of this training was to familiarize SARA rescuers with an actual mine and the hazards present even in non rescue situations. The training was enjoyed by all who attended. A thank you to Ros Hill for giving the tour; Ros has extending an invitation for us to come back to the mine again for mine shaft rescue evolutions in the future.

## May monthly training information:

As you should have heard by now, May training is Swift Water Rescue. This training will consist of three parts, the first two sessions will be short (1.5-2 hours) and will make the river session more enjoyable and efficient. While SARA does not do as many swift water rescues as in previous times, we have been called multiple times in recent years for hikers stranded on the wrong side of a flooded creek. The focus of this training will be on safety around the swift water environment as well as swift water crossing techniques and an introduction to rescue techniques.

In order to get the most out of this training attending all three sessions is best; please try to make all three. The dates are:

May 1<sup>st</sup>: 1800 at the SARA house (classroom)

May 2<sup>nd</sup>: 0830 at the Pusch Ridge pool (swim test)

May 9<sup>th</sup>: Magee and Oracle at 0700 (river day)

The May 9<sup>th</sup> training will be finish on the river at 1pm, plan on being back in town around 2:30 or 3:00.

## Topics to be addressed in May training:

- Safety around Swift Water
- When to Throw/ when to Go
- Medical considerations
- Using a raft
- How ropes can help, how ropes can hurt
- Weather and water changes

## Items you need to bring:

- Helmet
- Knife
- Whistle
- Wetsuit
- Shoes to wear in the water

The use of these items will be discussed during the classroom session.



# Search Techniques part 1

Author: David Lovelock

## How Does a Hasty Search Differ from a Large-Scale Search?

On average, 85% of all inland searches end within 12 hours, and 97% end within 24 hours. These times are measured from the moment the subject is reported missing, to the moment the last searcher reaches home, so the actual time searching is considerably less. A search that falls in this category is usually called a hasty search, or the initial response.

Aside from the time element, there are other factors that characterize a hasty search.

- There is a short time between when the subject is missing and when the authorities are notified.
- The command staff consists of only one or two individuals.
- Only a few local resources and agencies are involved.
- The subject may be moving or stationary.
- Trails and locations are searched, rather than areas.
- The most-likely regions to search are determined from experience and instinct.
- Everything happens within one operational period.
- A quick resolution, one way or the other.
- The press, but usually not on the front page.

Large-scale searches usually evolve in one of three ways.

- The hasty search fails to find the subject.
- The subject is reported missing long after disappearing.
- An aircraft disappears in flight.

Aside from scale, searchers in the field may see very little difference between these two types of searches.

However, to the command staff the difference is enormous.

- The command staff is usually much larger than one or two individuals.
- Multiple resources and agencies are involved.

- The search area is identified and divided into non-overlapping segments.
- Areas are searched, rather than trails and locations.
- Hot areas are identified using search theory, and terms like Mattson consensus, POA, ROW, POD, CPOD, are used. (These will be discussed in future articles.)
- Software, such as CASIE, is an essential tool to keep track of hot search areas. (CASIE will be discussed in a future article.)
- The subject is assumed to be stationary.
- ICS plays a big role in the logistics and documentation of the search. Terms like IAP, Span of Control, Strike Team, Task Force, T-Cards are used. (These will be discussed in future articles.)
- Lots of pressure, anxiety, criticism.
- Untrained volunteers, second-guessers, and “experts” come out of the woodwork.
- Much press coverage (good and bad) some on front page.
- After many operational periods the subject may still be missing.

Large-scale searches are few and far between, but when they occur they remain in searchers’ memories for years, and are frequently referred to privately by name, such as “The Smith Search”, “The Jones Search”, and so on.

Learning to run large-scale searches is a perishable skill, so constant retraining is essential.

*This article is part of a series that will continue in upcoming newsletters. David has been involved with SARA since 1979. With the late John Bownds, a SARA member, he designed the DOS program, CASIE, which was used world wide in large-scale SAR incidents. In 2006 he released the windows version of CASIE, which ultimately resulted in him receiving the National Park Service Search and Rescue Award (2006), the Pima County Sheriff's Department Citizen's Medal (2007), and the [NASAR Hal Foss Award](#) (2008).*



# More stuff...

## A note on getting in the field

OEC is finishing this month and I'm sure most of you are excited to just be done with the whole process; looking forward to having some free time back. Just keep in mind what you (hopefully) joined SARA for, to go on searches and rescues. Callouts are the part of SARA that makes all the training worthwhile; but making calls requires a large commitment in its self.

When you graduate OEC make a commitment to come on to callouts. Keep your rescue pack packed and ready to go, keep your cell phone handy, and when pages come out GO! SARA has a lot of opportunities to offer; all you have to do is start showing up...



Construction has started on the new SARA Sabino house. The shell is expected to be completed by the end of this month. We are still looking for in kind donations to help ease the building costs. If you have access to items we are looking for please contact Rich Kunz. A list of what we are looking for can be found on the SARCI site.

Remember this is *our* house. We need help to get it finished. Once OEC is over get involved and help out; the building committee meets regularly on Wednesday nights at 7:00pm



## OEC tips

While hyperthermic patients can be treated with cold and/or wet coverings, remember the similar rewarming procedures used for HYPOthermic patients: slow temperature changes. You will cause many complications if rapid temperature changes are induced, due to changes in circulation within the skin and outer tissues that protect the core temperature. Hasty treatments can result in both HYPO- and HYPERthermic conditions at the same time! Have you seen hot patients that are shivering? Restoring normal body temperatures will take time. Plan for that time. There may not be a need to rush out of the field. Wait for shadows to cover the trail, for example. Wait for your treatments to become effective.



A scene at Tanque Verde falls August 2008

## SAMPLE: not just something to write down

### Heat illness and prescription medications:

In general there are two types of heat exhaustion patients you will encounter in SARA. Those that can be treated on scene and nourished back to walk themselves out; and those that need a carryout regardless of scene treatment. Some factors that contribute to this are age, physical fitness and general adaptation to the heat. Another factor to consider is medications your patient is on. Certain medications will make oral rehydration ineffective and time spent “playing” on scene is time better spent getting the patient out.

Here is a brief, broad list of some medications that should raise a flag when you’re on scene.

**Hypertension medications:** These work by two general mechanisms: Diuretics and Angiotension Converting Enzyme Inhibitors (ACEI). Diuretics lead to increased water excretion. ACEI prevent reabsorption of sodium ions in the kidneys. If a patient is on an ACEI and has been drinking water all day but is feeling off, you may want to think hyponatremia instead of dehydration. Examples include lisinopril (generic), Prinivil, Zestril. If the generic name ends in –pril it is an ACEI.

**Diabetes medications:** Some side effects of diabetes medications are: nausea, vomiting, diarrhea and dehydration. Also keep in mind that newly diagnosed diabetics can have trouble regulating their blood sugar, leading to hypoglycemia. Some examples of type II diabetic medications are: metformin (generic), Glucophage, Glumetza. Also dehydrated patients on metformin can lead to serious long term problems for the patient due to build up of acid in the blood. Dehydrated + diabetes medication= load and go.

**Diet supplements:** these supplements are often unregulated by the FDA and work in a variety of ways. Some block the absorption of nutrients in the GI tract, others increase metabolic rates, other are basic diuretics. If your patient is on a diet supplements and has nausea, vomiting, other heat related problems, they are most likely not going to improve with oral rehydration.

Beta blockers are a class of drugs prescribed for a variety of conditions, often cardiac. The names for these drugs often end in –olol such as: atanolol or metoprolol, trade names Tenormin and Lopressor. Studies have linked taking prescription beta blockers to poor thermal regulation.

Sources/ further reading:

Hyponatremia due to Enalapril in an Elderly Patient, A case report. Hector Gonzalez-Martinez, MD, James J Gaspard, MD, and David V Espino, M.D.

Metformin Associated Lactic Acidosis; Not as Rare as we Think? S. Clare, P. Paul, C Hulley and S Jones. *Acute Medicine* 2006; 5(3): 99-101

Effects of beta blockers on exercise physiology: implications of exercise training. *American College of Sports Medicine, 1991.* Vol 23, No. 6. Neil F. Gordon and John F Duncan.

### Mark your Calendars:

June 6<sup>th</sup>: Summer in the desert training

June 20<sup>th</sup>: High Angle Rescue Training, MRA preparation

July 4<sup>th</sup>: Truck and Equipment training