



DRAFT - FOR REVIEW AND COMMENT

ASRC Health and Safety Tips

This is the first in a series of topical handouts that address topics important to maintaining personnel safety and mission efficiency in wilderness SAR. These are aimed both at personal safety and at giving the team leader tools to monitor their team to maintain team efficiency and effectiveness.

What is Dehydration?

- The body requires a certain amount of fluids to maintain normal function of body systems and organs.
- Dehydration occurs when the amount of fluid (water) available is less than what is needed for normal body processes.
- Hydration is dynamic, losses are difficult to measure or predict, making it difficult to monitor, both in yourself and in others.
- Hydration is a careful balance, normal losses include sweating, urination and defecation breathing [especially when the humidity is low (i.e. winter in the ASRC coverage area)] with consumption of beverages the only normal means to “gain” hydration.

Why is dehydration important in SAR?

- Dehydration can cause symptoms in a continuum starting with decreased efficiency and increased fatigue, to impaired ability to continue useful functioning and loss of consciousness.
- A team member who requires medical assistance is a distraction to the mission making prevention of dehydration key to maintaining function and efficiency in the field.
- As SAR professionals we spend a lot of time outdoors, with varying workloads causing increased sweating, and decreased access to fluids, make dehydration an everpresent risk.

How can I monitor myself or team mates for dehydration?

- Urine color and frequency can provide clues. The goal is to urinate at least every 2-3 hours, with urine that is light yellow to clear in color.
- The color is far more important than the frequency. This assessment can be difficult during menstruation.

Does it matter how fluid is being lost?

- Loss through sweating, vomiting, and diarrhea contains salt, so you need to replace the salt in addition to the water to keep the person well hydrated.
- Loss through breathing alone (i.e. light activity in winter or a very dry environment) is nearly pure water, so water replacement is adequate.

How do you replace salt?

- To absorb salt from food and drink efficiently you need a bit of sugar also present.
- If a sports drink is available, they are ideal. Hint: ‘Regular’ Gatorade is too concentrated and can cause vomiting, it needs to be diluted to half-strength to correct this – The newer ‘G2’ and ‘Sport’ Gatorade products have corrected this. Most other newer sport drinks are also fine.

HYDRATION CHART

HYDRATED	Safe Zone	1	Light Yellow
		2	Yellow
		3	Light Orange
DEHYDRATED	Danger Zone	4	Yellow
		5	Light Orange
		6	Orange
		7	Dark Orange
		8	Dark Brown

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- Salty Snacks can fit this need. Be aware that many “outdoors” foods like Clif bars, granola bars, and commercial trail mixes are often “low sodium”, so some other source of salt is needed.
- “GORP” made with equal measures of M&Ms, SALTED Virginia Peanuts, and Raisins is a good source of salt that is easy to carry.

What fluids can be used?

- The goal is to get water (and salt) into the searcher.
- AVOID ALCOHOL (NOTE: Alcohol is a mild diuretic; the post-drinking increase in urination often exceeds the fluid intake – a major contributor to hangovers.)
- Other than completely avoiding alcohol, almost any other beverage can be used. (Rumors that soda makes dehydration ‘worse’ are inaccurate)
- If you are using plain water, make sure you are adding salt via food.

Is there an easy way to predict heat stress?

- OSHA has created the “OSHA Heat Safety Tool” available on Android Play and iTunes App Store
- This App uses the location of the phone, gets current data from the Weather Service for your location, and calculates heat stress.
- Whenever the App recommends decreased activity due to heat stress you need to build this into the plans for your task.

Tips for team leaders:

- Make sure every team member has water or sport drink adequate for the task (generally at least a quart/liter) for a half-day task, more for longer tasks or warmer conditions.
- Consider the potential for your task to be extended (i.e. a find) when estimating fluid needs.
- Do not continue a field task beyond your available fluids. If you are out of water suspend the task until water is available – can water be brought from base, or can you task a team member to get water for the whole team?
- Plan on regular breaks for drinking/snacking. The frequency of breaks will vary with conditions, but take one whenever ANY member of your team is exhibiting any symptoms or asks for a break. Try to make sure breaks are in a cool (and shaded) spot whenever possible. NEVER ask a team member to “power through” when they are asking for a break.
- Monitor team members’ frequency of urination, and ask them to report if their urine is dark yellow or orange.