

The Simon Kenton Council



Important Hydration Information



Summer at A.P.Hill can test your ability to adapt to weather. In 2005, a heat wave engulfed the mid Atlantic states with severe heat conditions.

You will learn from other pages on this site, what to bring in regards to gear and uniforms. Shoes and hats are also important topics. Our first goal is to prepare you for the Jamboree, using the guidelines provided by the National BSA. Our priority, however, is your safety.

The following submission is from a Jamboree medical officer. This is not "official" from National, but sound information as you prepare. Specific gear mentioned is not "required" but, purchasing a camel-pack or nalgene bottle, as suggested, can be used at now summer camp, hiking and camping trips and other scouting and non-scouting activities. It also allows the scout to be accustomed to the gear in advance and saves you money when the Jamboree comes closer.

HYDRATE-HYDRATE-HYDRATE

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Since the first jambo at A.P. Hill in '81, heat and humidity/heat index have been a serious health and safety concern. One of the special efforts that should be made to prepare for the Jamboree is to heavily promote effective oral rehydration.

This comes after the experiences of the opening heat wave at A.P. Hill in 2001 and the events of 2005. Most Jambos in Virginia have not been quite as unpleasant, with just one or two brief exceptions, but usually, it will cool down after a few days and some good rainstorms come through which will help restore more comfortable conditions.

A significant example of serious lack of oral rehydration occurred at the 1993 World Youth Day in Denver when Pope John Paul II was present. Thousands of youth were seriously dehydrated and did not have sufficient access to water or sports drinks to compensate. The event required a massive medical response and victims of dehydration and heat exhaustion had to be rehydrated by intravenous injection. In the opinion of many retrospectively, much of this could have been prevented by providing widespread access to fluids and educating participants on effective oral rehydration.

Oral rehydration, we recommended that Scouts and leaders drink at least 12 fluid oz. of sports drink and water per hour during peak heat and humidity especially during exertion. The key indicator to determine proper hydration as taught at Philmont is to monitor urine quantity/frequency/color with the goal being "clear, frequent and copious." Most individuals are routinely dehydrated, as a sense of thirst does not occur until the fluid volume in the body is already significantly lower than it should be. Infrequent, low volume, dark-colored urine is generally a positive indicator of dehydration. While this can be tolerated in normal everyday life, the high adventure or jamboree outdoor experience places far greater demand on the body and requires careful attention to avoid dehydration and heat exhaustion. When scouts and leaders become significantly dehydrated they tend to become lethargic and very sleepy, so are unable to orally consume adequate fluid, and may have to receive I.V. therapy to restore fluid levels. Scouts with diabetes should of course consult with their physicians on proper hydration with limited carbohydrate intake. The use of "diet artificially sweetened drinks" by healthy Scouts should be minimized as they may contribute to dehydration unless used with equal amounts of water and/or sports drink. We also recommended that Scouts carry a "camel-back" oral rehydration pack with mouth tubes.

This was based on research that showed that the tubes attached to clothing near the mouth is more likely to be used frequently than a water bottle that has to be pulled out from a backpack each time a Scout wants to drink. Using a sports drink mix in a camel-back does require daily cleaning to avoid residue of drink mix and maintain cleanliness, but that should be done even if only water is being used.

The Gatorade Institute has done considerable research on effective oral rehydration and found that youth and adults are more likely to consume fruit-flavored sports drink fluids that have a balanced electrolyte mix (sodium, potassium). The carbohydrate in a sports drink is low volume, and with the electrolytes and glucose has been shown to enhance oral rehydration more effectively than plain water. Unlike high fructose corn syrup based soft drinks, sports drinks have low levels of carbohydrate that optimize absorption and physical performance.

Go to the Gatorade Library (on the web) **Click on "Sports Library"** and related topics for research and articles on appropriate use of sports drinks. Sports drinks also are very useful in rehydrating during illness such as colds or flu and tend to be tolerated even on queasy stomachs, or may be diluted with water if the patient tolerates it better.

The jambo water has a bit of a chemical taste so tends to be less appealing than if it is mixed with a sports drink powder. The Gatorade Institute research was confirmed by our own experiences, that youth were more likely to hydrate effectively with a sports drink than just plain water. Contrary to popular opinion, the simple sugars and low volume carbohydrates in sports drinks have NOT been shown to contribute to dehydration but rather enhance performance and energy levels. Salt tablets alone are generally not considered to be as effective as a sports drink because they often do not contain a correct balance of sodium and potassium electrolytes as does a sport drink. Their research was also corroborated by a professor of pediatrics with whom I co-authored an educational flyer on oral rehydration that was used at the 2001 jambo and the 2003 WSJ in Thailand. In Thailand, daytime temperatures in January often reached over 100 with high humidity. At pre-jambo training for Thailand, we educated our Venturers to bring along powdered sports drink mix and to carry camel-back water systems. This hydration system worked very well and we experienced very few dehydration problems during the ten day event. Our hosts told us that in Thailand there are two seasons, "hot," and "very hot," so we were lucky only to have been there for the more comfortable season, but it still routinely rivaled or exceeded heat indexes in Virginia. There have also been cases of hikers becoming seriously ill or in some cases dying of hyponatremia which results when only water is consumed without electrolytes and excess sodium is lost to perspiration. Some years ago, there was a report of a Scout who died on a desert trek from consumption of only water without supplementing with a sports drink or intake of sufficient balanced electrolytes. Typical 8 oz. servings of a common cola soft drink contains about 41 grams/14% high fructose corn syrup; fruit juice from concentrate such as cranberry/apple contains 30 grams/10% high fructose corn syrup, and a typical sports drink contains only 14 grams /5% of sucrose and glucose/fructose balanced carbohydrate/sugars. Moreover, occasional consumption of moderate amounts of non-caffeinated soft drinks, along with equal amounts of water or sports drink may actually help to improve hydration. Just be sure to educate scouts on the need for moderate and balanced consumption.

The biggest problem seems to be that the youth and adults at a jamboree or high adventure just don't drink enough to keep up with the fluid loss due to perspiration and respiration. So, educating youth and adults to drink far more than they normally would in their home environment has always been a tough sell, and requires a lot of reminders and reinforcement. We encouraged Scouts to take "water breaks" about every hour just to be sure that each member of their group was hydrating while they were moving from various jambo activities and events. This seemed to work well and the Scouts kept good track of each other to make sure no one was getting dehydrated. Our experiences with the WR/NE Venturing Crew at the XIX World jamboree in Chile were similar where the daytime temperatures reached as high as 107 degrees, although humidity levels were not nearly as high as Virginia. The Chileans provided large quantities of agricultural black plastic sunscreen mesh normally used to shield seedling crops from the sun. Chile is a major fruit producer and had considerable resources to provide the mesh to the troop sites which permitted us to erect a heat-absorbing mesh screen that allowed air flow and yet absorbed radiant heat from the sun, making a very comfortable central area for the campsite. I believe that A.P. Hill would perhaps greatly benefit from copious use of his agricultural mesh to shield the hot dark gp medium canvas tents that are often used for health centers and subcamp facilities, etc., and for use in the Scout troopsites.

Chile WSJ hosts also used water "misting stations" which were very helpful in cooling down overheated participants and in my view should be made widely available in Virginia at program areas and subcamps as well as the arena show venue. Yet another concept is to encourage the use of wicking type clothing such as those made by under-armor or the newer quick-dry non-cotton cool-max or lycra. Our Thailand WSJ Venturing crew jambo logo tee shirts were made from cool-max, from the Sweat-it-out company in "athletic gray" so they were easily washed' dried quickly and always looked good. Those who do laundry at jambo know how long it takes cotton garments to dry in the high humidity.

BSA supply offers several versions of tee shirts and polo shirts in the cool-max or similar wicking fabric as well. Non-cotton synthetic fabric socks such as Thorlo also were very effective in preventing blisters on feet due to the extensive daily walking required at jambo. Similarly, light, mesh type athletic shoes proved vastly superior to leather hiking boots in this hot and humid climate. Synthetic non-cotton wicking fabric undergarments also were found to help prevent chafing in the hot, humid climate where extensive daily walking was necessary. The usual precautions of using sunscreen, wearing a mesh hat, and protective clothing as well as sunglasses are also a must for comfort and skin protection.

GET READY FOR THE JAMBOREE

- Personal Day Pack - E-prep supplies - each member shall carry-on a day pack with a minimum of two 12 oz bottles of water, protein snack such as jerky; carbohydrates such as hard candy, energy bars or GORP. Each kit should also include personal medication for the individual participant, sanitary supplies such as TP and moist towelettes. A personal radio and FRS radio are also suggested. (See personal gear list)
- Troop Emergency Pack - This bag can be found near the front of the bus with the Scoutmaster. In it are flashlights with orange cones for emergencies; reflective vests; waterproof safety matches and butane lighters; first aid bag; emergency blankets; troop FM radio; FRS radios; cell phone; tool kit; spare batteries; sanitary supplies; master contact list laminated; troop itinerary and travel papers laminated; food - energy bars and hard candy; glow sticks (flares or fannies are combustible and not permitted at the jamboree); latex gloves; all troop members will be shown its location and know that it must get off the bus in an emergency.