

# Bottoms Up

*Staying hydrated is key whether you're club racing or offshore passagemaking.*

Just as water is an essential element of sailing, it's also vital to proper body function—yet staying hydrated underway is often taken for granted or given little consideration.

Drinking fluids isn't just important to stave off seasickness or help a sailor rebound from a bout of mal de mer. Water and electrolytes are required for all of our body's processes to run smoothly. Dehydration can rob muscles of strength and can fog the mind, compromising a sailor's boat-handling ability and capacity to make tactical decisions.

As the summer heats up this month, we were reminded that staying hydrated and healthy is as essential to a safe sail or a successful race as having the right gear on board. A person's body, during an average day in a temperate climate, loses approximately 2.5 liters of water, more if you're active or in a hot climate.

Dehydration occurs when the amount of water leaving the body is greater than the amount being taken in—that can result from sweating during a mid-day race or from heaving over the rail in the throws of seasickness during a voyage. It's easy to prevent: Just be sure to get enough of the right kind of fluids before, during, and after sailing. Knowing more about hydration tools (drinks) will make it easier—and no, beer or rum does not count.

## **SYMPTOMS AND TREATMENT**

There are three main types of dehydration: hypotonic (the loss of electrolytes, especially sodium), hypertonic (the loss of water), and isotonic (the loss of water and electrolytes).

A dehydrated person can exhibit a range of symptoms, depending on the severity of the condition. Signs of a mild case may include headache, dry mouth, muscle cramps, nausea and vomiting, dizziness and fainting, heart palpitations, and visual "snow." In heat-related cases, if the person is so dehydrated that

there is not enough water to sweat and cool down the body, then heat exhaustion or heat stroke could occur.

If the situation worsens beyond mild symptoms, the person may experience fatigue, confusion, and weakness as the brain and other body organs receive less blood. In the most severe cases, coma and organ failure could occur, and serious electrolyte disturbances can lead to cardiac and neurological complications.

Minor symptoms should be treated by drinking water and stopping fluid loss by seeking shade, resting, or taking medication to stop vomiting. However, water does not replace the lost sodium and electrolytes that lead to dehydration. For more severe cases, it's necessary to replenish the water and minerals, and in dire situations, intravenous rehydration therapy may be required.

## **THE OPTIONS**

These days, the options for a refreshing, rehydrating beverage are endless: from plain tap water to vitamin-enriched flavored water, to sugary sports drinks, and vegetable or fruit juices.

We selected a cross-section of different types of drinks commonly marketed for athletes or others with added hydration demands to weigh the pros and cons of each, with the help and advice of published medical studies and input from Senior Dietitian Sharon Zurlnick

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*Coconut water offers better hydrating benefits than sports drinks or vitamin-enriched waters.*



*Sports drinks like Gatorade help replenish electrolytes but are high in calories and artificial sweeteners.*

of the New York Presbyterian-Weill Cornell Medical Center. We looked at sports drinks, vitamin-enriched waters, and coconut water.

There's no right or wrong product in this group, but the best choice will depend on your personal taste and needs, as well as what type of sailing you're doing and where you're doing it. Look for the drink that strikes the right balance of sugars, carbohydrates, and sodium and other electrolytes to meet your needs—and of course, choose one that makes your tastebuds happy.



AS VALUE GUIDE		HYDRATION CHOICES	
	PRICE	PROS	CONS
COCONUT WATER ✓	\$2 / 11 oz.	High in electrolyte and potassium, fat free, natural	Availability may be issue, bottled cost compared to water
SPORTS DRINKS	\$2 / 20 oz.	Offers electrolytes, many flavors	Artificial colors, high-fructose corn syrup, price
WATER ✓	NA	No calories, all natural, readily available to most	Lacks electrolyte-replenishing ability
VITAMIN WATER	\$2 / 20 oz.	Added vitamins, no sodium, no artificial ingredients	Calories and cost on par with sports drinks

✓ Recommended

## WATER

Good ole H-2-O: We need it for survival. Our bodies are about 60- to 70-percent water; our blood is mostly water, and our muscles and organs all contain a lot of water. So it's commonsense that in order to maintain proper hydration, water must be an integral part of dehydration prevention.

The biggest drawback of water—besides its boring flavor—is that it doesn't contain the sodium, sugars, and carbohydrates that physical activity and sweating remove from the system. On the flip side, it also lacks the bad-for-you processed sweeteners, high calories, and chemical coloring some sports drinks have.

So how much water should we be drinking? The eight glasses per day quota we were all raised on is a good rule of thumb, but if you're on deck, under the blazing sun all day, or continuously hustling back-to-back sail changes, you'll need to up your intake and add some other fluids or foods that replace the burned calories, sugars, and sodium. Some health experts recommend adding one eight-ounce glass of water for every 20 minutes you are active, and if you're drinking alcohol, you should drink at least an equal amount of water.

## SPORTS DRINKS

Gatorade and Powerade have long dominated the sports-drink arena, and are marketed toward athletes looking to stay



hydrated. But as consumers have become more health-conscious, the makers of these brands have started offering “target” drinks aimed at specific consumers. For example, Gatorade's Bring It line has added B vitamins, which the company claims boost energy, and its Be Tough line has added vitamin E for those seeking an antioxidant increase.

Nutrition and ingredients wise, Powerade and Gatorade are very comparable. “Both products use high-fructose corn syrup as a carbohydrate source, which we advise people to limit their consumption of,” explained our advising dietitian Zurlnick. She said that both also have more sodium and much less potassium than natural drinks like coconut water. Potassium, an important electrolyte, helps maintain the right balance of water in the body's cells.

Gatorade and Powerade do provide more electrolyte-replenishing power than water, but not more than coconut or vitamin-enriched waters. The benefits of sports drinks over natural drinks include their numerous flavor choices and that they have higher carb contents, which is good for “extreme” athletes and others who burn a lot through activity,

but this really isn't a concern for most sailors. Some sports drinks also come bottled or as a powder. The small packets of powdered Gatorade are much easier to stow in a galley, ditch bag, or life raft



than a case of 20-ounce plastic bottles.

The downside to sports drinks, in addition to their artificial coloring and sweeteners, is their high calorie content. Even Gatorade's Low Cal line, has 50 calories per 8-ounce serving—that's the same calorie load as 11 ounces of coconut water.

## VITAMIN-ENRICHED WATER

There are several brands of vitamin-enriched waters on store shelves, including those by SOBE and Glaceau. These are exactly what their name implies: water with an oomph. Depending on the brand and flavor, these are reverse-osmosis filtered-water products that have added vitamin C, B vitamins, zinc, chromium, taurine, and potassium.

Unlike regular sports drinks, Glaceau's Vitamin Water has no sodium and it uses natural sweeteners like cane sugar and natural coloring from fruit and vegetable juices. Flavoring ingredients include fruit extracts and citric acid, an organic acid derived from citrus fruits.

While processed vitamin-enriched waters are a better hydration choice than artificial sports drinks, they still pack a comparable high-calorie punch: Per 8 ounces, Glaceau Vitamin Water has 50 calories, the same as some Gatorade products.



## COCONUT WATER

Often referred to as “Nature's Gatorade,” coconut water has been a staple in many cultures' diets for centuries, but only recently has it gained popularity among American consumers as a natural alternative to chemical-laden sports drinks.

Not to be confused with coconut milk, coconut water comes from young, green coconuts and does not have the high-fat content that coconut milk has. The coconut is a member of the palm family—not a tree nut—so it can be consumed by those with tree nut allergies.

Coconut water is loaded with good stuff: It has lots of potassium (12 ounces contains more potassium than two bananas, according to one drink manu-

## The Tastebud Challenge

In all the years *Practical Sailor* has been testing products, we've never led a taste test—until now. For this look at the best options for staying hydrated on the water, we conducted a taste test of multiple flavors of coconut water from two manufacturers, California-based Zico and Florida-based EQ Hurricane Juice.

Both companies market fruit-flavored coconut waters, and Zico sells a “Natural” flavored version, which has nothing added to it. Zico also offers passion-fruit and mango-flavored coconut waters, while EQ sells mango-pineapple, lemon-lime, and tangelo.

The products all have similar nutrition facts and ingredients lists, which include citric acid and natural flavors.

The EQ Hurricane Juice uses natural cane sugar to sweeten the drinks, while Zico adds no sweetener at all. Another difference between the products is in the production methods. EQ uses reconstituted coconut water while Zico uses “flash pasteurization”—often called high-temperature short-time processing—to process the coconut water.

**The Test:** We conducted a blind taste test with eight people, including men, women, and children. The drinks were assigned numbers for judging and poured in numbered cups. Each participant rated the drinks solely on taste.

**The Findings:** Testers preferred the all-natural Zico and the

facter) and is an excellent source of electrolytes.

“Consuming the natural amount of potassium and these necessary electrolytes before, during, and after exercise will help achieve proper electrolyte balance in the body, which will help prevent muscle weakness or severe muscle contractions,” Zurlnick said.

Dietitians and nutritionists have deemed coconut water “highly hydrating.” It has low acidity, no cholesterol, and no fat. (Unrelated tidbit: Coconut water is the only natural substance that can be safely injected into the human blood stream, according to Zico.)

The best way to drink coconut water, obviously, is straight from the nut. But given that most of us are without a neighborhood palm grove, there are many boxed and bottled brands on the market. We tested two of these, Zico and Hurricane Juice’s EQ Thirst Equalizer, for this review. For results of our taste test, see “A Matter of Taste” above.



Some boxed coconut waters—like the Hurricane Juice—add cane sugar and fruit juices for flavoring, but others like Zico Natural and Vita Coco have only one ingredient: coconut water.

### BOTTOM LINE

Ultimately, what works best for any person is what that person will actually drink. Anything is better than nothing, but from a nutrition standpoint, some of the choices we looked at are better than others given a specific activity, environment, or sailor’s needs. The best choice will offer the right balance of water, electrolytes, carbohydrates, and vitamins.

For those whose style of sailing puts their activity level on par with a marathon runner, Gatorade should be considered. But for the average daysailor or cruiser, an onboard hydration regimen that includes regular water and coconut water is recommended. Water is essential to life, and coconut water offers true re-hydration without

AS VALUE GUIDE		COCONUT WATER TASTE TEST	
	FLAVOR	RATING	PRICE / TESTER COMMENTS
ZICO	NATURAL ✓	Excellent	\$1.75; refreshing; nothing added
	MANGO	Good	\$1.75 / sweet
HURRICANE JUICE	TANGELO	Fair	\$2.50 / smells good
	MANGO-PINEAPPLE	Good	\$2.50
	LEMON-LIME ✓	Very good	\$2.50 / tastes like Gatorade

✓ Recommended

EQ Lemon-lime flavored coconut water, which several said tasted just like lemon-lime Gatorade. The other flavors were fruity, testers noted, but not that tasty. The least favorite was the EQ Tangelo, which reminded some testers of that powdered orange drink once so prevalent at school and Scouts events.

**The Bottom Line:** A taste test can never be definitive, but it was a fun experiment. Based on the palettes of the eight people tested, we recommend the Zico Natural and EQ Lemon-lime. The Zico is less expensive and comes in an easily compactible waxed box rather than a plastic bottle, which takes up more space in a locker or the trash bin.

preservatives or artificial ingredients.

If your tastebuds require more flavor, try one of the flavored coconut waters, vitamin-enriched water, or regular water with a slice of orange.

Budget-minded sailors might have a hard time digesting the high prices of some of these beverages and would do well to stick to hydrating with regular water flavored with fruit slices. But, in our opinion, it’s still a good idea to keep a few boxes of coconut water on hand in case a crew member becomes dehydrated or is vomiting from seasickness. ▲

### CONTACTS

#### GATORADE

800/884-2867, [www.gatorade.com](http://www.gatorade.com)

**HURRICANE JUICE**, 941/556-1169, [www.hurricanejuice.com](http://www.hurricanejuice.com)

**POWERADE**, [www.powerade.com](http://www.powerade.com)

**VITAMIN WATER (GLACEAU)** [www.glaceau.com](http://www.glaceau.com)

**ZICO**, 866/ SAY-ZICO, [www.zico.com](http://www.zico.com)