HOMEMADE SPORTS DRINK : COCONUT WATER BEATS GATORADE

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What is the best option for replacing your lost water and electrolytes? The popular commercial option is Gatorade. In reality, coconut water is a far better alternative and I'll explain why.

During heavy exercise your body can lose as much as a liter of water per hour. With this loss of water your body will also lose electrolytes, the minerals required for proper nervous system function and muscular contraction. Sports drinks can aid performance for athletes engaging in intense physical exercise but they are not a health food. For most individuals who exercise an hour or less per day simply drinking plain water is sufficient to replenish their body.

It takes sustained, strenuous exercise over several hours to seriously deplete electrolyte reserves necessitating more than plain water for restoration.But, let's say you fall into the "sustained, strenuous exercise over several hours" category OR you're under prolonged stress, which can have the same impact on electrolyte reserves.

WHAT ARE YOU LOSING WITH THAT SWEAT

First let's take a look at what our body is losing with the sweat. Sweat is composed primarily of water but we also lose minerals with the sweat. Sodium is the biggest loser at 900 mg per liter of sweat lost. Sodium is critical for maintaining fluid balance within your body, allowing proper nerve communication, and facilitating muscular contractions. Following a distant second to sodium in the loss category is potassium at 200 mg per liter of sweat lost. Potassium plays a role in muscular contractions. The other major players lost through sweat are calcium and magnesium. Calcium helps muscles contract while magnesium helps muscles relax.

SWEAT[1]	
mineral	**mg/liter**
sodium	900
potassium	200
calcium	15
copper	5.5
magnesium	1.3
iron	1
zinc	0.4
chromium	0.1
lead	0.05
nickel	0.05

Based on the role these four primary electrolytes play in muscle contraction can you guess the early warning sign that your electrolyte supply is running low? Muscle cramps are the initial warning sign. If hydration with electrolytes is not provided muscle spasms can be expected to follow.

HOW BEST TO REPLACE THE SWEAT LOSS

Gatorade is one of America's most popular Sports Drinks. However, in an ounce for ounce comparison between Gatorade G2 and coconut water, coconut water wins on every measure. Please note that G2 is the "low calorie" version of Gatorade and has a large "G2" on the bottle. Regular Gatorade has **three times the sugar** and has a large "G" on the bottle. It's an important distinction to make.

My preferred Sports Drink is plain coconut water with a pinch of Celtic sea salt and a twist of lemon. I add the sea salt for the trace minerals and lemon for the taste. I prepared a detailed comparison of the nutrient value of these two drinks in the table below.

OUNCE FOR OUNCE COMPARISON

		Gatorade G2[2]	Coconut Water w/sea salt & lemon slice	Coconut Water[2]	Sea Salt[3]	Lemon Slice[2]
Nutrient	**Unit**	**oz**	**oz**	**oz**	**4 tsp/12oz**	**1slice/12oz**
Protein	g	-	0.209	0.200	-	0.009
Fat	g	-	0.103	0.100	-	0.003
Carbohydrate	g	0.600	1.181	1.100	-	0.081
Fiber	g	-	0.333	0.300	-	0.033
Macro Minerals						
Chloride	mg	-	50.104	-	50.104	-
Calcium, Ca	mg	-	7.842	7.300	0.125	0.417
Iron, Fe	mg	-	0.117	0.100	0.012	0.005
Magnesium, Mg	mg	-	8.017	7.500	0.433	0.083
Phosphorus, P	mg	2.100	6.083	6.000	-	0.083
Potassium, K	mg	3.900	76.308	75.000	0.225	1.083
Sodium, Na	mg	13.400	69.833	31.500	38.333	-
Zinc, Zn	mg	-	0.003	-	0.003	-
Vitamins						
Vitamin C	mg	-	1.225	0.700	-	0.525
Folate, DFE	µg	-	0.983	0.900	-	0.083
Trace Minerals						
Aluminum	mg		0.009		0.009	
Boron	mg		0.001		0.001	
Bromine	mg		0.001		0.001	
Carbon	mg		0.050		0.050	
Cerium	mg		0.002		0.002	
Copper	mg		0.002		0.002	
Erbium	mg		0.002		0.002	
Fluoride	mg		0.001		0.001	
Gallium	mg		0.001		0.001	
Manganese	mg		0.002		0.002	
Praseodymium	mg		0.003		0.003	
Rubidium	mg		0.001		0.001	
Silicon	mg		0.100		0.100	
Strontium	mg		0.003		0.003	
Sulfur	mg		0.808		0.808	
Tin	mg		0.002		0.002	
Titanium	mg		0.001		0.001	

Note that the coconut water with sea salt and lemon provides about 70mg per ounce of sodium, so 12 oz would supply 840mg of sodium and you can lose 900mg of sodium in an hour of intense exercise, or a period of prolonged stress. Also note it provides a healthy quantity of calcium and magnesium, while Gatorade G2 provides none. You might notice the coconut water Sports Drink provides more carbohydrates but the 1.181 g/oz should be reduced by the fiber grams of 0.333 leaving about 0.85g of carbohydrate per ounce. Fiber in whole foods is not

converted to sugar, but is included in the total carbohydrate count; therefore it should be subtracted from the total carbohydrate to determine the actual carbohydrate impact.

TOXIC ADDITIVES

Another reason I like to prepare my own coconut oil, sea salt, and lemon Sports Drink is to avoid the toxic additives found in Gatorade. Let's take a closer look at some of the ingredients in Gatorade G2 that are of concern.

CITRIC ACID can cause damage to tooth enamel if exposure is long term.

NATURAL FLAVOR could be many different things you would not guess. MSG and aspartame both qualify as "natural flavor". Unfortunately you can't know what "natural flavor" means unless the manufacturer will share the information with you.

SUCRALOSE is an artificial sweetener 300 to 1000 times sweeter than sugar. It is approved by the FDA. It is not removed by waste treatment plants and environmental impact is unknown.

ACESULFAME POTASSIUM is an artificial sweetener 200 times sweeter than sugar. It is approved by the FDA but critics claim it is carcinogenic. It is not removed by waste treatment plants and environmental impact is unknown.

YELLOW 5 is a dye known to cause hives, asthma attacks, and hyperactivity in individuals with sensitivity to it.

RED 40 is a dye. In Europe it is not recommended for consumption by children because it may cause ADHD type symptoms and hyperactivity.

Gatorade G2 also contains; WATER, SUGAR, SALT, SODIUM CITRATE, and MONOPOTASSIUM PHOSPHATE

RECOMMENDATIONS FOR THE HEALTHIEST COCONUT WATER

There are some simple rules you can use to judge any food to determine the healthiest options. Food as nature prepared it is the most nutrient dense. Keep that in mind in your search for the healthiest coconut water.

PROCESSING
Avoid processing which involves heat such as pasteurizing or coconut water made from concentrates. Heat destroys nutrients and enzymes. Some coconut water is made using a process called high pressure processing (HPP) technique which kills bacteria with pressure instead of heat leaving nutrients and enzymes intact.

FRESHNESS
Coconut water loses nutrients as the coconut ages. With the loss of nutrients the taste will change and become less sweet. A sure sign the manufacturer is using older coconuts is the addition of sweeteners to the coconut water.

ADDITIVES
Always buy organic. Toxic additives come not only at the time a food is processed and packaged but also from the soil while it is growing.

Fortifying food with vitamins, minerals, and flavors is an attempt to replace the nutrients stripped away by processing. These added nutrients are a poor substitute for the naturally occurring ones, are not well-absorbed by the body, and a sure sign of a food you want to avoid.

Preservatives only serve to make money for the food manufacturer by allowing 'dead' food to sit on the shelf, theirs or yours, for long periods of time. Remember real food has a short shelf-life, or as I like to say "real food rots".

The Weston A. Price Foundation Shopping guide lists the following brands in their BEST category;

- Fresh Organic Coconut Water by Glaser Organic Farms
- Frozen Organic Young Coconut Water by Exotic Superfoods
- Frozen Organic Young Coconut Water by Divine Organics

FREEZE-DRIED COCONUT WATER: WHY IT'S A GREAT OPTION

Fresh coconut water from young organic coconuts is clearly the healthiest option, but it is not always practical because of time or availability constraints. I think freeze-dried coconut water may be one of the best alternatives. We don't always know in advance when we may be in need of a re-hydrating Sports Drink. We may throw-in an unexpected tough workout or an impromptu opportunity for a beautiful but rugged hike may present itself. Or we may be dealing with stress and noticing the early signs of dehydration. Travel is another case where having something portable and available is always an issue. In all these cases it would be great to have something right at hand that we could mix up as a super hydrating Sports Drink and freeze dried fits the bill.

Good options for freeze-dried coconut water include these organic options;

Navitas Naturals Coconut Water at http://navitasnaturals.com

Big Tree Farms Coconut Water at http://bigtreefarms.com

STAY HYDRATED

Go forth and stay hydrated with coconut water, a pinch of sea salt, and a twist of lemon! Your body will love you for it!

[1] Wikipedia http://en.wikipedia.org/wiki/Perspiration#Composition

[2] Source: USDA National Nutrient Database for Standard Reference 27 Software v.2.1.1 http://ndb.nal.usda.gov/ndb/

[3] Elements in Light Grey Celtic Sea Salt® Our most recent analysis demonstrated that Celtic Sea Salt® contained at least 75 minerals and trace elements. The following lists the most predominant elements revealed by this analysis. This is a partial analysis, if you are interested in the full analysis please call us. Analysis performed by Western Analysis, Inc. for The Grain & Salt Society®. For verification: Western Analysis, Inc. 2417 South 2700 West Salt Lake City, UT 84119 (801)973-9238 Fax (801) 973-7635